TRANSIT FARES FOR SENIORS

... A FRAMEWORK FOR THE FUTURE

A Report for the Transportation Services Committee by the Bus Pass Sub-Committee

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EXECUTIVE SUMMARY

Background

- There are approximately 51,700 senior citizens (over 65 years of age) in the Region now. There are 44500 seniors in the 65-84 age group in the transit service area, and it is this group who represent the majority of the potential transit market. The number of senior citizens in this potential market is expected to increase by about 20 percent over the next ten years.

- The regular adult cash fare on the HSR is $1.05 a ride. Adult tickets are $1.00 a ride. Adult monthly passes are $39.00

- The current HSR program provides for the availability of a discounted monthly transit pass costing $26.50 to any senior in the Region. Senior citizen bus tickets are discounted and are available for 65 cents each. In addition, the City of Hamilton offers a $28.75 annual transit pass to any City of Hamilton resident over the age of seventy.

- There are approximately 860 senior monthly passholders and approximately 6300 seniors who use tickets and cash fares to ride. There are 10,000 over-seventy City of Hamilton residents who own the annual pass.

- The 860 monthly senior passholders and the 6300 seniors who ride on cash and tickets combine to take about 1,600,000 rides a year on the HSR. The 10,000 over-seventy City of Hamilton annual passholders take about 3,800,000 rides a year on the HSR.

- The impression that the over 70 annual passholder does not ride the bus frequently proved incorrect with an average useage of 380 rides per year.

- The City of Hamilton underwrites the cost of the $28.75 annual pass by paying the HSR $318 for each pass issued. In 1988, this program will cost the City of Hamilton about $3,200,000 in fare stabilization payments.

- To date, no other area municipalities have adopted a similar senior citizen fare stabilization plan because of the costs involved. A number of alternative fare policies were assessed with the objective of presenting an affordable package to the area municipalities, offering - over time - a program to all seniors over 65 years of age while maintaining an administratively simple system.

The Proposals

- Those over 70's receiving the $28.75 annual pass will do so for life.

- The proposed fare policy for seniors includes phasing in a new program which will allow a senior to ride the bus at a substantially reduced fare and, at the same time will gradually phase out the existing annual pass available in the City of Hamilton. The new program consists of a $25 annual program fee plus a 25 cent fare for each ride. Both the annual program fee and the fare would escalate at the same rate as the adult cash fare. The program (shown in constant 1988 dollars) would be phased in as shown below:

Year	Age Group	Program	Age Group	Program
1989	68-69	$25-25 cent	70+	$28.75 annual
1990	66-70	$25-25 cent	71+	$28.75 annual
1991	65-71	$25-25 cent	72+	$28.75 annual
1992	65-72	$25-25 cent	73+	$28.75 annual
.	.	.	.	.
.	.	.	.	.
2000	65-80	$25-25 cent	81+	$28.75 annual

- This program would be offered to the City of Hamilton and the other area municipalities who choose to participate. For the municipalities that opt in, the first year of the program will be a pilot project

- The subsidy or fare stabilization paid by a municipality would be based on the actual rides taken by seniors on the new program. The subsidy for each ride would be the difference between the senior ticket price ($0.65 in 1988) and the drop fare ($0.25 in 1988) or $0.40 per ride. The fare stabilization payment would escalate.

- The annual cost to ride the bus is shown below for the various types of passes currently in use and for the proposed new $25 annual program fee and 25 cent fare:

Annual cost for an adult pass user	$468.00
Annual cost for an over seventy City resident	$ 28.75
Annual cost for a senior pass user	$318.00
Annual cost for the new senior program	
- "average" Hamilton resident	$126.25
- "average" Ancaster user	$ 46.75
- "average" Dundas user	$ 50.25
- "average" Stoney Creek user	$ 52.50

The cost for the"average" Hamilton resident is higher than the others because more annual trips are taken by Hamilton residents. More trips are taken because the route density and frequency of service are better in the City. The modest variations in cost for the other area municipalities reflects the service differences in those municipalities.

The Magnetic Pass

- The magnetic card will permit the use of a decrementing pass. The decrementing pass which will allow the seniors to purchase rides in batch and have those rides electronically stored on their passes. Each time the senior rides the bus, the pass will be swiped through the card reader on the farebox. The card reader will record the ride as a senior ride from a specific municipality. The card reader will also subtract 25 cents value from the card. This means that the senior will not have to drop the 25 cent cash fare each time they ride.

- The ability to purchase rides in batches of - say - 50 trips means that the seniors in Hamilton would not need to pay the entire $126.25 pass cost "up front". For example, a senior could pay the annual program fee and buy a batch of 50 rides for a total cash outlay of $37.50. When the 50 rides run out during the year, that senior could go to a HSR ticket outlet and purchase a batch of 50 more rides for $12.50. This responds to the request of the public for a "one card does it all" system.

- The first year of operation is proposed to be a pilot project. The pilot project will test and evaluate the practicality of using a

decrementing pass for the seniors. The pilot project will also allow accuracy checks of the number of senior rides electronically recorded by the farebox. This is important since this electronic system will form the basis of the fare stabilization payments from a municipality to the HSR. The HSR has the potential to undertake this novel approach to implementing this fare policy because of the new electronic fareboxes. The pilot project is intended to cover all opted in municipalities.

Cost

- Taking everything into consideration, the proposed new program will be almost $2.2 million less expensive to the City of Hamilton over the next ten years than continuing with the present program.

- The ten year cost for Dundas and Stoney Creek would be about $0.6 million each.

- The $25 annual program fee and the 25 cent fare will be subject to an inflation formula. The $25 annual program fee will inflate at the same rate as the adult cash fare. The 25 cent fare will be pegged at 25 percent of the adult cash fare and will therefore escalate. The fare stabilization payment will be the difference between the equivalent senior ticket fare and the senior cash fare under the new program. Therefore, the fare stabilization payment would be 40 cents in the first year and it would also escalate over time. For the first few years of the seniors program, the 25 cent fare drop will increase to 30 cents only when 25 percent of the adult cash fare is actually 30 cents. Thereafter, the fare will increase by a nickel when the mid-point (2.5 or 7.5) between five cent increments is reached. In the future, for example, if 25 percent of the adult fare was 32.2 cents, the fare charged to seniors would be 30 cents; and if 25 percent of the adult fare was 32.9 cents, the fare charged to seniors would be 35 cents.

Follow Up

- The new program should be monitored after two years to compare actual use with the projections made in this study. The monitoring will include a review of pass penetration, rides per pass, accuracy of electronically collected ride statistics and service changes.

BACKGROUND

This section of the report covers the study process, the development of the background data and some conclusions regarding transit pass use by seniors in Hamilton.

The Study Process

The study was conducted by the Bus Pass Subcommittee of the Transportation Services Committee of the Region of Hamilton Wentworth. The Subcommittee was chaired by Councillor Christopherson. Councillors Addison of Dundas and D'Agostino of Hamilton were subcommittee members. Hamilton Street Railway (HSR) and Regional Social Services staff provided technical resources to the subcommittee. The contribution of Mr. Michael Pennock of the Social Planning and Research Council of Hamilton and District is also acknowledged by the Subcommittee.

The study was initiated in February 1988. The Subcommittee directed staff to undertake reviews of background data and information regarding pass use by seniors in the region as well as transit pricing policies for seniors in other parts of the country. Following a review of the background material, staff was directed to undertake surveys of the transit passholders in the over 70 age group in the City of Hamilton with a view to obtaining information on the characteristics of this user group. Councillor Addison also undertook to survey seniors in Dundas to help identify travel characteristics and transit issues. Following this activity, a review of issues led the Subcommittee to the formulation of a number of alternative seniors' fare concepts. Staff was directed to assess the alternatives in terms of future demographics for the 65 and over age group in the Region, future ridership, future transit cost implications, future revenue sources and the financial impacts on the area municipalities. The Subcommittee then reviewed the implications of each alternative and selected four alternatives to take to the public. Two public meetings were held; one in Hamilton and one in Dundas. The Hamilton public meeting was attended by over 300 people and the Dundas public meeting was attended by over 100 people. The public meetings featured a presentation of the alternatives, the background material and the implications of each alternative. Members of the public then had an opportunity to ask questions - and they did! The HSR provided language interpreters (French, Italian, Portuguese, German) to assist with any questions or answers from the audience. Following the public meetings, the Subcommittee met to consider the questions raised and to select a preferred alternative.

Senior Fare Policies in Other Parts of the Country

In the Regional Municipality of Hamilton-Wentworth, there are several fare policies in effect for senior citizens. First, there is a monthly pass available to all seniors in the Region. That pass is priced at $26.50 monthly which is about 65 percent of the adult pass price. Second, there are discounted seniors bus tickets priced at $0.65 each which is also about 65 percent of the adult cash fare. Third, there is a special program for the over 70 age group in the City of Hamilton. This program enables any City resident over 70 years of age to aquire an annual pass for $28.75 from the City. For each of these special passes, the City compensates the HSR at the regular senior pass rate which is $318 (12 times $26.50) annually.

Information on senior citizen fare policy in other municipalities was obtained from the Canadian Urban Transit Association and is summarized in Table 1. The Table shows that there are a variety of fares in the Country. The data is shown for the year 1986 - the last year for which complete data is available. The cash fares range from $0.40 in Montreal, Winnipeg and Halifax to $1.00 in Hamilton, Toronto and Mississauga. The $1.00 fare (in 1986) represented the adult cash fare. No cash fare discounts were give because both the tickets and passes were discounted. Nine of the fifteen municipalities discounted their senior tickets. The lowest seniors ticket prices were from Montreal, Winnipeg, Halifax and London while the highest prices were in the Ontario cities of Ottawa and Toronto. There is a wide variety in annual pass costs for seniors. Municipalities with low cost annual passes include Quebec City, Calgary, Edmonton, Regina, Mississauga and the over 70's in Hamilton. The municipalities with relatively low cost monthly passes include Montreal, Winnipeg, Windsor and Ottawa. Municipalities with higher priced - but still discounted - senior monthly passes include Kitchener, Toronto, Vancouver and Hamilton regular seniors pass.

Each municipality seems to have its own particular policy on seniors fare pricing. However, the practice of a reduced fare for senior citizens is evident in every municipality reviewed.

Existing Data

The amount of existing data on seniors riding the HSR was limited to information developed in the 1983 MOPS Study and to current pass sales records. The information contained in the MOPS study included estimates of trips per pass by both the regular senior pass user and by the over 70 pass user in Hamilton. Estimates of the number of rides per pass for the regular seniors pass holder was about 1200 per year. This number was modified downward slightly on the basis of further analysis undertaken later in the study. The estimate of rides per pass for the over 70 group was about 370 rides, which coincided with the

Table 1

WHAT'S HAPPENING IN THE REST OF THE COUNTRY?

CITY	SENIOR CASH FARE	SENIOR TICKET	SENIOR PASS
CALGARY	–	–	$15 ANN
QUEBEC	–	–	FREE
MONTREAL	0.40	0.33	$11 MO
WINNIPEG	0.40	0.35	$15 MO
HALIFAX	0.40	0.36	–
EDMONTON	0.50	0.50	$15 ANN
WINDSOR	0.50	–	$15 MO
KITCHENER	0.60	–	$23 MO
OTTAWA	0.75	0.75	$11 MO
REGINA	0.80	–	$25 ANN
LONDON	0.85	0.40	–
HAMILTON	1.00	0.60	$26 MO $28 ANN
TORONTO	1.00	0.42	$28 MO
MISSISSAUGA	1.00	0.85	$ 5 ANN
VANCOUVER	VARIES	–	$27 MO

figures generated on the basis of surveys described in the following section. The MOPS Study also provided information on passenger classification which was used to assist in estimating current senior ticket and cash riders. Data on the number of regular senior passes was made available from sales records. It was estimated that the 860 regular senior pass holders, along with about 6300 senior cash and ticket riders take approximately 1,600,000 annual rides on the HSR.

Surveys

Two surveys were conducted in order to obtain travel data from active senior riders. It was intended that the data collected could be used to assist in forecasting ridership implications of various fare concepts developed by the Subcommittee. Both surveys were conducted with the over 70 year City pass holders. The surveys were conducted when the over 70 passholders came into City Hall to renew their passes. Each survey was completed by 600 seniors. The surveys were administered by HSR staff who selected respondents randomly as they completed their transit pass renewal procedure. The survey forms are shown in Apendix A.

Survey One was a long form, administered questionnaire. The survey dealt with details of system useage such as frequency of use, daily and monthly use, duration of pass ownership (age), routes utilized, trip purpose and auto ownership information. The results of this survey were used, in part, as the basis of identifying transit use by age, transit use by route and transit use by time of day.

Survey Two was a short form, administered questionnaire. This survey was meant to obtain a "snapshot" of system use on a daily basis for early Subcommittee deliberations. The survey also generated valuable data on trip start times which were used in the analysis of incremental trip loading at maximum load points.

Survey Results

An analysis of Survey One indicated that - on average - each of the over 70 year old pass holders took 383 transit rides a year. For the 10,006 passholders, that totalled over 3,800,000 rides annually. The survey identified that there was little variation in the amount of riding from one month to another. It identified that there was a significant difference in the amount of riding by day of week. Tuesdays and Thursdays were the highest riding days at 121 percent and 116 percent of the average daily ridership. The survey found that 74 percent of the over 70 trips were made in the mid-day (9:00AM - 3:00PM) period. Ten percent of the trips are made in the morning peak period and eleven percent of the trips are made in the evening peak period. The remaining five percent of the trips are made in the evenings (6:00PM - 9:00PM). No night riding was reported. The most actively used routes were King (28 percent), Barton (19 percent),

Delaware (14 percent) and Upper Gage (11 percent). In all, 25 routes in the system are used by the over 70 seniors. The predominant trip purposes were for shopping and for personal business. None of the seniors surveyed used the HSR solely for emergencies or as "bad weather" transportation. Most of the over 70 transit passholders do not own a car or have a drivers license.

Survey One identified that there was a relationship between the number of years that a pass was owned and the number of annual rides taken. The number of annual rides rises from about 370 for a first year pass holder to about 420 for an eight year pass holder. The number of annual rides declines quickly after the eighth year. In addition, it was found that the number of transit rides taken by pass holders who were able to own and operate an automobile (20 percent of the pass holders) was 310 annually - well short of the average of 383 annual rides for the over 70 group. The complete results of Survey One are contained in Appendix B.

Survey Two identified that 39 percent of the over 70 transit pass holders rode the bus on a typical weekday. This survey indicated an average annual use of about 345 rides per year. The same pattern of route useage reported in Survey One was found to hold in Survey Two. In Survey Two, a slightly higher percentage of the ridership occurred in the off peak period than was reported in Survey One and the highest hour of system use was found to be between 10:00AM and 11:00AM.

DEMOGRAPHICS

Demographic information was required to identify the number of seniors in the Region today and to assess the number of seniors likely to be living in various parts of the Region in the future. Today, there are about 51,700 residents of the Region over the age of 65 years. Of this group, about 2700 live in the area municipalities of Glanbrook and Flamborough and are thus outside the transit service area. Another 4500 seniors in Hamilton, Ancaster, Dundas and Stoney Creek are over the age of 84 and the majority would not likely be candidates for annual transit passes. This leaves about 44,500 seniors in the 65-84 year age group in the transit service area. Table 2 indicates that 37,100 seniors currently reside in Hamilton, 1,500 reside in Ancaster, 2,500 reside in Dundas and 3,400 reside in Stoney Creek.

Population forecasts are currently being undertaken by the Regional Planning Department and were not available for this study. However, short term forecasts were made of the demographic data using national growth factors for the 65-69, 70-74, 75-79 and 80-84 age cohorts. For a variety of reasons, the staff forecasts presented here may be slightly lower than the eventual Regional forecasts - largely because the effects of migration and short term changes in life expectancy brought about by generally more active and healthy lifestyles could not be incorporated. Notwithstanding these factors, the forecasts of the population by age to the year 1998 is shown in Table 2. The population forecasts suggest that there will be an increase of seniors living in the transit sevice area of about 20 percent to a total of 53,700. Most of these seniors will be living in Hamilton, but significant numbers of seniors will be living in Stoney Creek and Dundas.

Table 2

Population Estimates By Age Group

Municipality	1988			1998		
	65-69 Years	70-84 Years	Total	65-69 Years	70-84 Years	Total
Hamilton	14400	22700	37100	14400	30400	44800
Ancaster	650	850	1500	650	1150	1800
Dundas	850	1650	2500	850	2150	3000
Stoney Creek	1400	2000	3400	1400	2700	4100
TOTALS			44500			53700

Source: Regional Assessment data for 1985

METHODOLOGY

This chapter deals with the technical methodologies used to forecast ridership, revenues and costs for the various fare policy alternatives under study. There were several areas of technical work undertaken. First, estimates were made of transit ridership under the present City pass program. The work included extrapolating ridership data by age group for the $28.75 annual transit pass. Second, estimates were made for the condition where pass pricing changed from that in use today. This included estimating ridership at various pass prices for the seniors group. Third, a series of financial models were developed to identify ridership, revenues and costs for the various fare policy alternatives under consideration by the Subcommittee. Fourth, a ridership allocation model was developed which assigned senior ridership to each route on the basis of survey findings. Fifth, a costing method was developed to identify the additional costs by route for seniors due to fare policy changes and/or the inclusion of new senior riders into the reduced fare program.

Pass Use for Seniors - Existing Program

Data from Survey One concerning annual rides per pass by year of pass ownership was reviewed. A time series was constructed and regression analysis was run on that data. Based on the regression analysis, it was detrmined that the average annual ridership for the 65-69 age group would be 350 rides if that population group were offered the $28.75 annual pass. By way of comparison, the annual rides per pass for the 70-74 year group is 385, for the 75-79 year group is 400 and for the 80-84 year group is 270. The data and regression analysis is contained in Appendix C of this report.

Pass Use at Different Monthly Pass Rates

Several of the fare policy alternatives included assessing ridership at different fare levels. In order to estimate the effects of fare reduction, a pass use model was developed. The model was anchored at one end by the existing $26.50 monthly seniors pass. The annual ridership on this pass was estimated during the 1983 MOPS Study at around 1000 rides. A range of annual rides per pass were used for sensitivity purposes and included a low value of 750 rides per pass and a high value of 1200 rides per pass. The total ridership in this age group was estimated by adding the derived pass ridership and the actual cash and ticket ridership to get 1,600,000 rides per year currently for the 65-69 age group. At the other end, the model was anchored by the derived statistics for the 65-69 age group based on a free annual pass. These ridership statistics included a 50 percent pass penetration rate and 350 annual rides per pass for a total annual ridership of about 2,500,000. A hand fit curve of total rides was developed and is shown in Appendix D. The annual pass rides for passes

priced between zero and $26 a month were developed from fare-ridership elasticity data described in Appendix D. The resulting elasticities were -6.6 percent for the 750 ride per pass scenario and -4.0 percent for the 1200 ride per pass scenario. Both these elasticities are within the range of those reported in the literature. A discussion of the elasticities are also contained in Appendix D. Appendix D contains a summary sheet of the various ride per pass data which was eventually used in the ridership estimates for the various fare proposals generated by the Subcommittee. As the monthly pass price goes down, the average rides per pass also goes down but the penetration (the percent of people buying the pass) goes up. Table 3 summarizes this relationship.

Financial Models

The financial model used to calculate ridership, revenues and costs was a spreadsheet application. Ridership for each fare policy alternative was based on population projections by age group, pass penetration rates, annual pass ridership rates and ridership allowances for ticket and cash riders. Revenues were based on pass ownership, pass ridership where appropriate and ticket and cash revenue. The costs were taken from estimates for incremental service developed elsewhere in this report.

Another simple financial model was developed and was used to calculate the municipal fare stabilization payments for the senior transit programs and the municipal share of the change in the deficit brought on by any incremental service required to carry the newly generated senior ridership. This is also discussed in another section of the report.

Ridership Allocation Model

A ridership allocation model was developed which translated the new ridership generated for each fare policy alternative into peak hour and off-peak hour one way trips on each bus route. This allocation of senior riders was possible through the application of survey information on routes used (by ward or area municipality) and trip start times. In fact, peak and off-peak ridership by route was forecast for each hour of operation from 7:00 AM to 6:00 PM.

Route Costing

In order to determine the additional cost for transit service for each fare policy alternative, a costing method was established. The method used was to identify the maximum load points - using HSR records - for each hour on each route under consideration. The additional loadings by hour and by route for increased seniors riding for each fare alternative was added to the maximum load point for that route. The

TABLE 3

Summary of Pass Use

Monthly Pass Cost	Annual Rides per Pass	Pass Penetration
$26.00	750-1200	0.06
$20.00	670- 990	0.08
$15.00	590- 820	0.10
$10.00	510- 680	0.15
$ 5.00	430- 500	0.23
$ 3.35	405- 450	0.30
$ 2.45	390- 420	0.35
$ 0.00	340- 350	0.48

route capacity was calculated using the number of buses per hour on each route multiplied by the capacity of the bus type. If the new maximum load point exceeded capacity, additional service was added to the route. The additional service required was determined by calculating the number of additional buses per hour required past the maximum load point and calculating the bus hours required based on round trip running time on the route. The total annual bus hours were then calculated and costed at the HSR's current cost structure.

FARE POLICY ALTERNATIVES

This chapter contains a discussion of some of the factors that the Subcommittee considered in formulating alternative fare policies for further consideration. The four fare policies that were developed for further evaluation were taken to the public, and a summary of the public response to those fare policies are included in this chapter. The chapter also contains an outline of policy alternatives that were discussed by the Subcommittee, but for a variety of reasons - were rejected.

Considerations for Fare Policy Development

Five major considerations were applied in the formulation of fare policy alternatives.

The first consideration was that the existing program benefits would have to be mainitained. This meant that the over 70 year old seniors in the City who are currently enjoying the annual $28.75 transit pass would continue to have access to that pass in the future. Conversely, this also meant that those seniors in the City who will not attained the age of 70 by the spring of 1989 will not neccessarily have the $28.75 annual pass awaiting them at their 70th birthday.

The second consideration - based on the significantly higher annual transit rides taken per capita by the over 70 age group as compared to the annual transit rides per capita taken by the 65-69 year group - was that an expanded reduced fare program should be developed. This was deemed neccessary by the Subcommittee to address the issue of the effect of transit fare pricing on the amount of trip making that a senior could undertake. This program would also be available to the other area municipalities.

The third consideration was to keep the user cost as low as possible. It was recognized from the surveys that there is a relationship between fares and ridership in the senior citizens age group. Any plans to incorporate the concept of a user fee should recognize that relationship between pricing and ridership.

The fourth consideration was to maintain an element of financial responsibility in terms of developing a program that could achieve the first three considerations or objectives - but would be structured to eliminate the uncontrolled growth of the cost of subsidy (fare stabilization payments).

The fifth and last consideration was to achieve some fairness in the establishment of fare stabilization payments - for both the sponsoring municipality and for the HSR. For example, the City pays the HSR a flat fare stabilization payment for each over 70 pass issued - regardless of how many trips the over 70 takes. In some cases, this is

to the City's advantage - but in other cases it is to the HSR's advantage. Ideally, the City would pay the HSR for the exact number of rides taken by seniors riding under a City sponsored program.

Policy Alternatives

The policy alternatives considered generally fell into four categories: do-nothing, two stage by age group, user pay and special policy.

The do nothing alternatives were just that. The first of these alternatives was to maintain the current City program which is open to all over 70 City residents. The seniors on this program pay an annual fee of $28.75 and have no limit to their transit riding. The City of Hamilton pays the HSR $318 per year in fare stabilization payments for each senior in the program. There are just over 10,000 seniors in the program in 1988. The fare stabilization payments from the City to the HSR currently run about $3.2 million. No similar programs exist in any of the other area municipalities. The second of these alternatives was to expand this program and make it available to all City residents between 65 and 69 years of age. It was felt that the percentage of seniors in this age group wanting to obtain a transit pass under these circumstances would be about the same percentage holding passes in the over 70 age group. This would mean adding about 7000 new passholders in the City. This would result in fare stabilization payments alone of about $62 million over the ten year period and would be about $13 million in excess of the do nothing alternative.This policy alternative was not considered for the outlying area municipalities because of the lack of interest in the existing over 70 program.

The two stage alternatives were aimed at maintaining the $28.75 annual pass for the over 70 year group, while offering the 65-69 year age group some type of fare discount over and above the current senior tickets and passes available. The general form of the discount considered for the 65-69 year group was to charge an annual program fee that would entitle the user to pay a deeply discounted cash fare. The annual program fee was $25.00 and the two discounted cash fares considered were ten cents and twenty five cents.

The user pay alternatives were similar to the two stage alternatives in that - for the City at least - the policy had two parts. The idea was to phase in a new program while - at the same time - maintaining the existing benefits to those seniors now enjoying the $28.75 annual transit pass. This meant that the seniors currently on the $28.75 annual pass would be "red circled". The new program would include the payment of an annual program fee of $25.00 which would allow the pass holder to ride at a discounted cash fare. Two discounted cash fares were examined - ten cents and twenty five cents. The new program would

apply to those seniors in the 68-69 age group in the first year, in the 66-70 age group in the second year, in the 65-71 age group in the third year, in the 65-72 age group in the fourth year and so on until all the seniors would be on the new program and the $28.75 annual pass would have been phased out. For the other area municipalities, it was considered that the new program incorporating the $25.00 annual program fee and a cash fare of either ten cents or twenty five cents would be similar to the City proposal The annual program fee and the reduced cash fare would escalate at the same rate as the adult cash fare. For example, the twenty five cent fare will be pegged at twenty five percent of the adult cash fare and will increase to thirty cents only when twenty five percent of the adult cash fare is actually thirty cents. Thereafter, the fare will increase by a nickel when the mid-point (2.5 or 7.5 cent mark) between five cent increments is reached.

The two special fare policies that were considered were a fare by distance and an off peak fare policy. The fare by distance concept was based on the assumption that senior's transit trip charateristics - particularily as they related to trip length - differed from the norm. The surveys, however, did not seem to support that assumption. The number of pass holders from each ward occurred in the same proportion as the population of seniors in that ward. The number of transit trips from each ward occurred in nearly the same proportion as the proportion of seniors living in each ward. The transit trips made by seniors seemed to be made fairly uniformly across the City, and therefore the fare by distance concept was dropped. The concept of a special off-peak price for seniors to encourage them to ride in the off peak was also dropped. It was dropped because the seniors already make about 75 percent of their trips in the off peak hours and because of the criticism by seniors at the public meetings that they did not want their hours of riding limited.

Changes Brought About by Public Meetings

Two public meetings were held - one in Hamilton and one in Dundas. Both meetings were well attended and many questions were asked. A summary of the questions asked are included in Appendix E. The Subcommittee was interested and influenced by the public requests for a "one price pass" for the new program. This meant that instead of paying the annual program fee of $25.00 and dropping the (reduced) fare into the farebox every time they rode, the seniors asked for consideration of a pass that could be priced to include the $25.00 program fee and the dollar value of the average annual number of rides expected to be taken. The Subcommittee directed that further study be undertaken to determine ways and means of adopting the suggestion. The feasibility of establishing a one price pass is reported upon in the implementation chapter.

COST OF ADDITIONAL TRANSIT SERVICES

This chapter deals with the costs of the additional transit services required by the increased ridership generated by each fare policy alternative. The increased ridership was calculated on the basis of demographic growth and increased personal ridership based on transit fare elasticities. The methodology was discussed in a previous chapter. The ridershp for each fare policy alternative was entered into a ridership allocation model which was based on the results from the surveys concucted with the over 70 seniors. The allocation model assigned the ridership to routes. Peak hour and off peak hour factors were utilized to allocate those annual riders into hourly riders on each route. The incremental route loadings were added to the maximum load point passenger volumes for each route ant the resulting loads were compared to the route capacity. If the new passenger loadings exceeded the capacity, additional service was added to the route. The added service was costed out at current HSR operating costs to establish annual incremental costs for transit service for the additional senior loadings.

Additional Senior Transit Route Loading

Additional senior transit route loading will occur to varying degrees depending upon which fare alternative is being considered. Tables 4 and 5 summarize the general levels of senior transit ridership in the area municipalities. Table 4 indicates that under the pass program in effect, the do nothing transit ridership for the over 70 group in the City of Hamilton will grow to about 4.5 million rides in 1993 and about 5.2 million rides in 1998. These figures start from a ridership base of about 3.8 million rides in 1988. The large increases in the ridership for the other fare alternatives are due to more seniors being on passes. The largest ridership impact is when the $28.75 annual pass is made available to all seniors over 65 years of age. The ridership impact of the $25 annual fee and 10 cent fare is about 500,000 annual rides higher than the $25 annual fee and 25 cent fare. This is largely due to a lower pass penetration rate at the slightly higher pass cost.

Table 5 shows the impacts of the fare policies on ridership in the other area municipalities. The ridership increases sharply from what is being experienced today. However, once the initial increase takes place in the first several years, the rate of growth thereafter is relatively low. Stoney Creek is forecast to generate the largest seniors ridership outside the City of Hamilton, with Dundas fairly close behind. The senior ridership forecast for Ancaster is the lowest of the area municipalities. The reason that the outlying municipalities do not generate senior transit trips at the same rate as trips are generated in the City of Hamilton is that the transit service index (the number of revenue miles of transit service divided

Table 4

Seniors Transit Ridership by Program - City

Fare Policy Alternative	1993 Ridership (000's)	1998 Ridership (000's)
Do nothing (1)	4502.0	5236.0
Extend $28.75 pass to all seniors in City	6948.5	7524.7
Phase in $25 annual fee and 25 cent fare, phase out $28.75 annual pass	6230.0	6421.0
$25 annual fee 10 cent fare	6585.0	6936.0

(1) The do nothing does not include the 1.6 million annual trips made by the 65-69 seniors group in the Region under the regular seniors fare program

Table 5

Seniors Transit Ridership by Program - Area Municipalities

Fare Policy Alternative	1993 Ridership (000's)	1998 Ridership (000's)
Ancaster		
$25 annual fee and 25 cent fare	43.6	46.7
$25 annual fee and 10 cent fare	49.1	52.6
Dundas		
$25 annual fee and 25 cent fare	83.0	90.6
$25 annual fee and 10 cent fare	93.0	101.5
Stoney Creek		
$25 annual fee and 25 cent fare	124.7	135.0
$25 annual fee and 10 cent fare	140.2	151.7

be the number of square miles of the service area) for the City of Hamilton is so much higher. Personal transit ridership in the area municipalities is about one quarter of that in the central city.

Cost of Additional Transit Service

The cost of additional transit service was calculated on the basis of the effect that the incremental senior ridership has on the existing capacity of the transit system. The additional peak and off-peak ridership was allocated to bus routes on the basis of the ridership patterns reported in the senior surveys. The peak and off-peak ridership by route was further refined to reflect hourly use on each route. This hourly incremental ridership was added to the hourly maximum load point ridership for each route. The new hourly maximum load point was compared to the existing route capacity. If there was a capacity deficiency on a route, transit capacity was added. The capacity was added by adding buses at the current round trip running times until the capacity shortfall had been made up. The number of additional annual bus hours were calculated and the added service was costed out at the current HSR operating cost structure.

Of all the HSR routes, there were only four City of Hamilton routes where incremental seniors ridership resulted in over capacity situations. These over capacity situations occured only in the off-peak period and not in the morning or evening peak hours. The routes that were found to be capacity deficient were Aberdeen, Barton, King and Upper Gage. Additional capacity was added to Main West in Dundas and an allowance for a general upgrade of routes in Stoney Creek was made. Table 6 shows the cost of additional transit service in 1993 and 1998 for various fare policy alternatives. The additional cost of transit service is highest for the expansion of the $28.75 pass in the City of Hamilton. The added costs for that fare alternative is about $400,000 in 1993 and almost $1,000,000 in 1998.

Table 6

Cost of Additional Transit Service

Fare Policy and Municipality	1993 Added Cost ($000)	1998 Added Cost ($000)
City		
Do nothing	81.0	243.0
Extend $28.75 pass to all seniors	405.0	972.0
Phase in $25 annual fee and 25 cent fare, phase out $28.75 annual pass	243.0	567.0
Dundas		
$25 annual fee and 25 cent faare	70.0	70.0
Stoney Creek		
$25 annual fee and 25 cent fare	70.0	70.0

FINANCIAL PROJECTIONS

This chapter includes a discussion on the development of the fare stabilization payments for each fare policy alternative, the projected municipal deficit position taking into account only the effect of increased transit costs due to increased seniors demand and a comparison of the financial implications of the fare policy alternatives.

Fare Stabilization Payments

The fare stabilization payments were calculated for each of the fare policy alternatives under consideration. The development of the ridership estimates upon which fare stabilization payments would be made included forecasts of the population eligible for the various fare programs, identification of pass ownership levels for each fare alternative and the average annual amount of transit riding which would occur on each pass type. These factors were discussed in the methodology chapter. The pass ownership estimates were used to calculate pass revunue to the HSR. Ridership estimates in the new programs were used to calculate fare stabilization payments - since the payments are proposed to be made on the basis of the municipality paying the difference between the senior ticket price and the drop fare. This means that in the $25 - 10 cent fare program, the municipalities would pay the HSR 55 cents per ride. In the $25 - 25 cent fare program, the municipality would pay the HSR 40 cents for each ride taken. The HSR would keep the $25 program fee to cover the cost of administering the pass system. The rides taken would be recorded on the electronic fare collection system currently in place at the HSR.

Appendix F includes the background information related to the development of the fare stabilization payments for four of the fare policy alternatives. The fare policy alternatives include the do nothing, an expanded existing program and a phased in $25 - 10 or 25 cent fare program.

Appendix G includes the background information of fare stabilization payments for the area municipalities for the same fare policy altenatives.

Deficit Position

The deficits were calculated for three fare policy alternatives for the City of Hamilton. The calculation resulted in an identification of the City share of the deficit when the effects of the additional seniors riding was taken into account. There is no inflation in the

deficit figures and all dollars shown are 1988 dollars. Appendix H shows the ten year projection of annual fare stabilization payments and deficit position for each fare policy alternative. Table 7 shows the financial position of the City for three of the fare policy alternatives. The table shows the municipal share of the costs (fare stabilization plus municipal share of the deficit) over the next ten year period for the do nothing, the $25 - 10 cent alternative and the $25 - 25 cent alternative. The table shows that the $25 - 10 cent fare policy alternative would cost about $4.15 million more than the do nothing alternative over the next ten year period. The $25 - 25 cent alternative, however, would cost about $2.17 million less than the do nothing alternative over the next ten year period.

The area municipalities ten year subsidies including both the fare stabilization payment and the net cost to carry the assumed increases in operating costs for the incremental seniors loadings for the $25 - 10 cent fare would be about $0.88 million in Dundas and $1.0 million in Stoney Creek. For the $25 - 25 cent fare the total municipal ten year cost would be about $0.6 million for both Dundas and Stoney Creek.

Discussion

For the City of Hamilton, the do nothing alternative would be increasingly expensive over the long term. Appendix H contains the detailed information on the fare stabilization payments and the local share of the deficit. The fare stabilization payments would increase steadily over time as the over 70 population group increases. The municipal share of the deficit (in constant dollars with no service changes other than the added cost of service to seniors) would decrease slightly because the additional cost of service for the seniors would not grow as fast as the fare stabilization payments under the current arrangement. However, the sum of the two payments will continue to rise unabated.

For the City of Hamilton under the $25 and 10 cent fare, Appendix H shows that the fare stabilization payments would rise until 1991 and then begin to abate as more and more of the seniors are absorbed into the new program at a lower subsidy rate for the city. The municipal share of the deficit will drop until 1991 when increasing service costs take over and begin to cause slight increases on an annual basis. The total cost to the municipality will increase each year until 1991 and then will flatten out. The costs for the $25 and 25 cent fare are the lowest of the three alternatives. The trend of these total costs are downward after 1990 due to both lower additional operating costs than the 10 cent fare (lower number of riders) and lower fare stabilization payments because of pass ownership rates, lower overall ridership and a lower municipal subsidy base. The combined effects of the fare stabilization and municipal deficit

Table 7

FINANCIAL POSITION

BASIC SERVICE FROZEN, ONLY CHANGE IS THE IMPACT OF THE SENIORS IN TERMS OF ADDED SERVICE COSTS AND INCREASED REVENUE DUE TO INCREASED FARE STABILIZATION PAYMENTS OR THE 10 OR 25 CENT DROP CHARGE. THERE IS NO INFLATION IN THE DEFICIT.

MUNICIPAL SHARE OF THE DEFICIT ($MILLION)

YEAR	DO NOTHING	$25 10CENT	$25 25CENT	COMPARED TO DO NOTHING $25/10	$25/25
1988	12.46	12.46	12.46		
1989	12.42	12.81	12.54	.39	.12
1990	12.39	12.94	12.56	.55	.17
1991	12.41	12.97	12.46	.56	.05
1992	12.41	12.92	12.37	.51	-.04
1993	12.44	12.86	12.27	.42	-.17
1994	12.48	12.85	12.18	.37	-.3
1995	12.52	12.89	12.14	.37	-.38
1996	12.55	12.92	12.09	.37	-.46
1997	12.58	12.94	12.05	.36	-.53
1998	12.62	12.87	11.99	.25	-.63
				4.15	-2.17

(1) OVER THE TEN YEAR PERIOD THE MUNICIPAL COST OF THE $25/10CENT PLAN IS $4,150,000 MORE EXPENSIVE THAN THE DO NOTHING PLAN.

(2) OVER THE TEN YEAR PERIOD THE MUNICIPAL COST OF THE $25/25CENT PLAN IS $2,170,000 CHEAPER THAN THE DO NOTHING PLAN

SELECTING AN ALTERNATIVE

There were five considerations outlined for the development and selection of a fare policy. Those considerations were outlined in a previous chapter and included:

- maintain program benefits for the current over 70's
- expand the seniors ridership base
- keep the user cost as low as possible
- limit the uncontrolled growth of the subsidy
- ensure fairness in stabilization payments to both the municipality and to the HSR

Insofar as maintaining the existing benefits is concerned, all the fare policy alternatives meet that consideration. The over 70's will retain their $28.75 annual pass for life.

Insofar as expanding the ridership base is concerned, the $25 - 10 cent fare program enlarges the eligible group from the over 70's to the over 65's. It also results in about 38,000 more passes being issued in the City over the ten year period from 1989 to 1998 than in the do nothing situation. The $25 - 25 cent fare program also enlarges the eligible base from the over 70's to the over 65's. It results in about 25,000 more passes being issued in the City over the ten year period from 1989 to 1998 than in the do nothing situation.

Insofar as keeping the user cost as low as possible, the do nothing costs the over 70 City user $28.75 annually - which is very inexpensive. However, the 65-69 year group in the City and all seniors in the rest of the Region must pay the $26.50 monthly senior rate, which translates into $318 annually. The $25 - 10 cent fare program for the "average" user would cost $64 annually in the City, $36 annually in Dundas and $36 annually in Stoney Creek. The $25 - 25 cent fare program for the "average" user would cost $126 in the City, $50 in Dundas and $53 in Stoney Creek.

Insofar as limiting the uncontrolled growth of the subsidy, the $25 - 25 cent fare program does this best in the City. In fact, after 1990, the total municipal payments decrease in constant dollar terms. The $25 - 10 cent fare program results in total municipal payments that increase, but tend to stabilize after 1991. The do nothing alternative results in a steady growth of municipal payments over the years. In quantitative terms, the do nothing alternative is $2.17 million more expensive than the $25 - 25 cent fare program over the ten year period. The $25 - 10 cent fare program is $6.32 million more expensive than the $25 - 25 cent fare program.

Insofar as fairness in terms of fare stabilization payments, both the $25 - 10 or 25 cent fare programs are the fairest because the fare

stabilization payments will be based on actual use.

Recommendation

In the final analysis, the choice to be made was between the $25 - 10 cent fare program and the $25 - 25 cent fare program. The choice to be made was whether the benefits of the $25 - 10 cent fare program in terms of its wider pass coverage and lower user cost outweighed the higher costs of the program compared to the $25 - 25 cent fare program. The trade off can be distilled as follows:

> The $25 - 10 cent fare program provides for about 12,800 more passes issued over the ten year period. The passes are are also $62 cheaper per year to each user than the $25 - 25 cent fare program. However, the $25 - 25 cent fare program is $6.32 million dollars cheaper over the next ten years.

The Subcommittee felt that if the "up front" cost of the $25 - 25 cent pass could be softened by issuing the pass with renewable blocks of - say - 100 rides per pass it would make the initial purchase price about $50. Subsequent blocks of rides could be purchased for $25 and encoded on the pass. On this basis, the $25 - 25 cent fare program was adopted because it performs almost as well for the user as the $25 - 10 cent fare program and has a much lower ($6.32 million) long term cost to the City. The Subcommittee thinking for the suburban application was similar - that is - the front end cost to the user for the suburban application was deemed acceptable and the long term cost to the municipalities was much lower than the $25 - 10 cent fare program.

IMPLEMENTATION

There are a number of implementation factors which must be addressed in order to successfully launch the recommended program. These implementation factors are listed and discussed below.

The Program

The program to be implemented is the $25 annual program fee and the 25 cent fare. The $25 annual program fee is to be collected each year from passengers enrolling in the program. The fee will escalate with the adult cash fare. The 25 cent fare drop will be made - either electronically or in cash - each time a senior rides. The fare will escalate according to the formula outlined elsewhere in this report. The HSR will be entitled to all the revenue generated from pass sales and revenue drops.

The program will start in its first year with the 68-69 year age group. In the second year, the age group served by the program will be the 66-70 year olds and in the third year the program will serve the 65-71 year olds. The current over 70's will retain their annual passes for life. In the area municipalities, the first year of the program would be open to the 68 year olds and up, the second year would be open to the 66 year olds and up and the third year would be open to the 65 year olds and up.

The opting in municipalities will pay the HSR a fare stabilization payment equal to the difference between the senior ticket price and the fare drop. Today, that fare stabiliazation payment for a ride would be ($0.65 - $0.25) forty cents. The HSR will maintain records of senior riders by municipality using their electronic fareboxes. Factors will be developed by the HSR and discussed with the municipalities to account for seniors riding on defective passes. The HSR will bill the municipalities on a monthly basis for the fare stabilization payments.

The program may require photo identification on the passes. The HSR, who will be responsible for operating the program, will make a final decision on this matter by March 1989. Transfers can be utilized by the seniors and there will be no limit on the time of day that seniors can ride the buses.

Timing of the Program

The program is intended to begin with a pilot project in March 1989.

The Magnetic Cards

As discussed earlier in this report, magnetic encoded cards and the automatic card reader on board the buses will be the basis upon which this program will oprate. The HSR will proceed with the systems and programming work neccessary to meet the pilot or pre-pilot date. The HSR may undertake a pre-pilot test to determine the reliability of card performance with a small sample of seniors. This would be done prior to embarking on the full pilot project.

The Pilot Project

The full pilot project would start in March 1989 and last for one calendar year. The pilot project would be open to all opting in municipalities. Te intent of the pilot project would be to perfect and test the systems neccessary for smooth operation of the program. Specific questions addressed during the pilot project would include ease of use of the pass system for the seniors, accuracy of the pass system and intervention proceedures for handling and replacing defective passes.

The Distribution System for the Passes

The HSR shall develope a plan for the distribution of the senior passes and ride cards. The plan shall include the rationalization of ticket outlets handling senior passes and the proceedure for photo identification if required. This task will also include the testing and development of the pass package itself, including the method for determining how the annual privilege card is to be deemed "valid" or "out of date".

File Maintenance and Billing Procedures

Following the pilot project, the HSR will finallize the structure of the rider files for fare stabilization billing purposes. In addition, the HSR will establish the billing protocol with the opted in municipalities. The HSR will also develope, in co-operation with the municipalities, a fall-back billing system.

Funding Sources

The Regional Social Services department shall identify the sources of

funding available to assist low income seniors in obtaining the proposed transit pass. The Department and the HSR will jointly develope an information kit for this program.

Follow up

The HSR shall commission a review of the senior ridership within two years of the initiation of the pilot project to review the actual pass useage and compare it to the forecasts made in this report.

APPENDIX

A

HSR SENIORS FARE POLICY QUESTIONNAIRE NUMBER ONE

1. HOW MANY YEARS HAVE YOU HAD THIS SPECIAL PASS? _____

2. WHICH MONTHS DO YOU USE THE BUS THE MOST? (Circle most)

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ALL

3. HOW OFTEN DO YOU USE THE BUS DURING THOSE MONTHS?

SEVERAL TIMES A DAY ○
EVERY DAY ○
SEVERAL DAYS A WEEK ○
EVERY WEEK ○

HOW MANY TIMES A WEEK WOULD THAT BE?

A FEW TIMES A MONTH ○

ONCE A MONTH ○
A FEW TIMES A YEAR ○
HARDLY EVER ○

GO TO 8. ←

4. DO YOU USE THE BUS ANY PARTICULAR DAY(S) OF THE WEEK?

MON TUES WED THUR FRI SAT SUN ALL RANDOM

5. WHAT TIME OF DAY DO YOU USUALLY TRAVEL?

AMPEAK (7A-9A) MID-DAY (9A-3P) PMPEAK (3P-6P) EVENING (6P-9P) NIGHT (9P--) RANDOM

6. WHICH OTHER MONTHS DO YOU USE THE BUS?

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

7. HOW OFTEN DO YOU USE THE BUS DURING THESE MONTHS?

EVERY WEEK ⊖ → DAY? _____
A FEW TIMES A MONTH ○
ONCE A MONTH ○
A FEW TIMES A YEAR ○

8. WHICH ROUTES DO YOU USUALLY TRAVEL?

---------- ---------- ----------

9. WHEN YOU TRAVEL BY BUS, DO YOU DO IT FOR ....?

○ SHOPPING ○ VISIT FAMILY/FRIEND
○ ENTERTAINMENT ○ PERSONAL BUSINESS
○ EMERGENCY ○ BAD WEATHER _____

10. DO YOU HAVE A DRIVERS LICENSE? _____ 11. DO YOU OWN A CAR? _____

12. WHICH WARD DO YOU LIVE IN? _____

COMMENT?----------

HSR SENIORS FARE POLICY QUESTIONNAIRE NUMBER TWO

1. DID YOU RIDE THE BUS YESTERDAY? _____
(If "NO" - then go to 4)

2. (IF YES) . . CAN YOU TELL ME ABOUT THE TRIPS?

	TRIP 1	TRIP 2	TRIP 3	TRIP 4
START TIME?				
START LOCATION?				
END LOCATION?				
TRIP PURPOSE?				
ROUTE?				

3. ANY MORE TRIPS YESTERDAY - - - RECORD OVER

4. DID YOU RIDE THE BUS LAST WEEK? _____ HOW MANY TIMES? _____

5. WHICH WARD DO YOU LIVE IN? _____

6. COMMENTS:

APPENDIX

B

1. HOW OFTEN DO YOU USE THE BUS?

	RESPONDENTS	PERCENT
SEVERAL TIMES A DAY	22	3.6
EVERY DAY	144	23.5
SEVERAL TIMES A WEEK	356	58.2
EVERY WEEK	30	4.9
A FEW TIMES A MONTH	20	3.3
ONCE A MONTH	35	5.7
A FEW TIMES A YEAR	2	0.3
HARDLY EVER	3	0.5
	612	100

FOR THOSE USING THE BUS SEVERAL TIMES A WEEK

TRIPS	RESPONDENTS	RIDES
1	8	16
2	83	332
3	115	690
4	114	912
5	32	320
6	4	48
	356	2318

AVERAGE RIDES PER WEEK 6.5

FOR THOSE USING THE BUS EVERY WEEK

TRIPS	RESPONDENTS	RIDES
1	25	50
2	3	12
3	2	12
	30	74

AVERAGE RIDES PER WEEK 2.5

RIDES MADE PER YEAR

	RIDERS	RIDES PER RIDER	ANNUAL RIDES
SEVERAL TIMES A DAY	22	1200	26400
EVERY DAY	144	600	86400
SEVERAL TIMES A WEEK	356	325	115700
EVERY WEEK	30	125	3750
A FEW TIMES A MONTH	20	50	1000
ONCE A MONTH	35	25	875
A FEW TIMES A YEAR	2	5	10
HARDLY EVER	3	2	6
	612		234141

AVERAGE RIDES PER PASS HOLDER 383

TOTAL RIDES ALL PASSHOLDERS 3825833

2. WHICH MONTHS DO YOU USE THE BUS?

	RESPONDENTS	PERCENT OF AVERAGE MONTH
JANUARY	521	102
FEBRUARY	519	102
MARCH	498	98
APRIL	489	96
MAY	500	98
JUNE	516	101
JULY	521	102
AUGUST	523	103
SEPTEMBER	505	99
OCTOBER	499	98
NOVEMBER	517	101
DECEMBER	518	102

3. WHICH DAYS DO YOU USE THE BUS?

	RESPONDENTS	PERCENT OF AVERAGE DAY
MONDAY	198	93
TUESDAY	259	121
WEDNESDAY	223	104
THURSDAY	248	116
FRIDAY	215	100
SATURDAY	209	98
SUNDAY	145	68
RANDOM	244	

4. WHAT TIMES DO YOU USE THE BUS?

	RESPONDENTS	PERCENT
AM PEAK	61	10
MID DAY	431	74
PM PEAK	64	11
EVENING	28	5
NIGHT	1	0
RANDOM		

5. WHICH ROUTES DO YOU USUALLY TRAVEL?

ROUTE	RESPONDENTS	PERCENT RESPONDENTS
KING	172	28
BARTON	118	19
DELAWARE	83	14
UPPER GAGE	69	11
UPPER WENTWORTH	56	9
ABERDEEN	48	8
CANNON	45	7
UPPER SHERMAN	39	6
UPPER KENILWORTH	37	6
FENNELL	37	6
LOCKE	35	6
UPPER JAMES	31	5
WEST HAMILTON	28	5
UPPER OTTAWA	28	5
UPPER WELLINGTON	26	4
GARTH	25	4
SANATORIUM	23	4
MOHAWK	21	3
YORK	19	3
BAYFRONT	17	3
UNIVERSITY	15	2
PARKDALE	13	2
UPPER PARADISE	13	2
MAIN	5	1
B-LINE	4	1
UPPERS	299	

6. WHAT WAS YOUR TRIP PURPOSE?

	RESPONDENTS	PERCENT RESPONDENTS
SHOPPING	452	74
PERSONAL BUSINESS	344	57
ENTERTAINMENT	173	28
VISIT FRIENDS	139	23
BAD WEATHER	2	0
EMERGENCIES	0	0

7. DO YOU HAVE A DRIVERS LICENSE OR DO YOU OWN A CAR?

	YES	NO
HAVE DRIVERS LICENSE	144	463
OWN A CAR	114	493

HAVE A DRIVERS LICENSE AND OWN A CAR	112
HAVE A DRIVERS LICENSE BUT DONT OWN A CAR	32
DONT HAVE A DRIVERS LICENSE BUT OWN A CAR	2
DONT HAVE A DRIVERS LICENSE AND DONT OWN A CAR	461

8. HOW MANY YEARS HAVE YOU HAD THIS SPECIAL PASS?

YEARS	RESPONDENTS	
1	43	
2	80	
3	68	
4	67	
5	54	
6	46	
7	40	
8	37	
9	23	
10	55	
11	15	
12	17	
13	53	(FIRST YEAR OF ISSUE)
14	1	
15	4	

10. WHAT WARD DO YOU LIVE IN?

WARD	RESPONDENTS	PERCENT SURVEY	PERCENT ACTUAL
1	98	16	14
2	98	16	14
3	101	16	15
4	85	14	18
5	36	6	7
6	64	11	8
7	74	12	16
88	53	9	8

PASS USE BY LENGTH OF TIME PASS OWNED

YEARS PASS OWNED	AVERAGE ANNUAL RIDES	TIME SERIES
1	373	
2	361	369
3	373	393
4	444	397
5	375	399
6	378	389
7	415	404
8	420	423
9	434	403
10	354	348
11	255	297
12	283	290
13	333	

PASS USE FOR PERSONS WITH DRIVERS LICENSE AND CAR OWNE

AVERAGE ANNUAL RIDES 310

AUTO OWNERSHIP/DRIVERS LICENSE BY TIME PASS OWNED

YEARS PASS OWNED	RESPONDENTS WHO HAVE DRIVERS LICENSE AND OWN CAR
1	17
2	16
3	16
4	11
5	14
6	6
7	7
8	8
9	3
10	4
11	3
12	2
13	5

APPENDIX
C

Derivation of 350 Annual Trips for 65-69 Year Age Group

Two regression equations were developed relating annual rides to age of pass holder. The first regression equation was based on the raw useage data from Survey One which included "years pass owned" and "average annual rides" as shown below:

Years Pass Owned	Average Annual Rides
1	373
2	361
3	373
4	444
5	375
6	378
7	415
8	420
9	434

The regression equation generated using this data was $y = 7.32x + 360$ with an R value of 0.42 In the equation, y is the annual rides per year and x is the yeaars of pass ownership. We felt a little uncomfortable about using the raw data directly from the survey, especially since the coefficient of determination was low.

The second regression equation was based on time series data as follows:

Years Pass Owned	Time Series Annual Rides
2	369
3	393
4	397
5	399
6	389
7	404
8	423

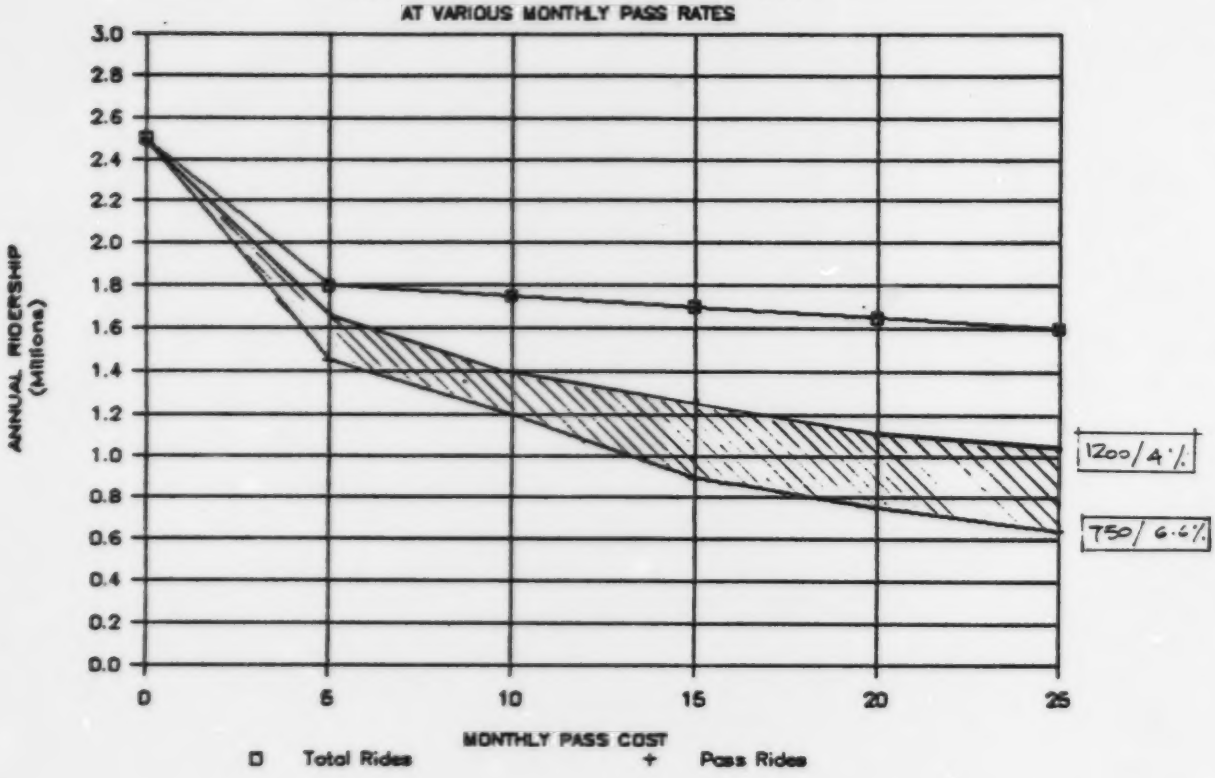
The regression equation for this data was $y = 6.29x + 371$ with an R value of 0.70 This data fit was used to project backwards and yeilds the 350 annual rides per passholder at the mid point (67 years) of the 65-69 age cohort.

APPENDIX

D

RIDERSHIP COMPOSITION

AT VARIOUS MONTHLY PASS RATES



Fare Elasticity Equation

There is little experience in the transit industry with the effects on ridership of fare reductions. Most transit experience is quite the opposite - that is - the effects on ridership of fare increases. However, some work has been done in this area. In 1977, the USDOT / Federal Highway Administration / Urban Mass Transportation Administration/ produced a excellent study entitled "Traveller Response To Transportation System Changes" in which the effects of fare reduction on ridership were monitored and calculated in a number of cities. The fare elasticities (percent ridership change related to a one percent change in fare) were as follows:

Atlanta	-0.15 to -0.20
Cincinnati	-0.38
San Diego	-0.40 to -0.45
St Louis	-0.35
Boston	-0.17 to -0.32
Denver	-0.62 to -0.99

In the aggregate, the observations indicated that a 1 percent fare reduction prompted a 0.15 to a 0.99 increase in transit rides. The authors thought that the typical situation would result in an elasticity of about -0.40

However, our data for the 65-69 year age group fixed the ridership for this group in the 1983 MOPS study at one end of the scale and our projection for the 65-69 age group (350 rides per year/45% pass penetration) fixed the pass ridership at the other end of the scale. This resulted in a calculated, uniform elasticity of -0.66

THEORY USED IS THAT A PASS IS PURCHASED AT BREAK EVEN AND THEN OVER TIME, OWNER RIDES AT THE HIGHER PASS LEVEL BY SPENDING MARGINALLY MORE TO RIDE SIGNIFICANTLY MORE

25.00+0.10*T=0.65*T BREAK EVEN T=45

BUY IN AT (45*.65)/12= $2.45 / MONTH

25.00+0.25*T=0.65*T BREAK EVEN T=62

BUY IN AT (62*.65)/12= $3.35 / MONTH

RIDE SENSITIVITY TO PASS COST

PASS COST	ABS DECR	PCT COST DECR	PCT RIDE INCR PER 10% COST DECR	PCT RIDE INCR	PASS RIDES <2>	
26.00					660000	<3>
20.00	6.00	23.08	6.6	.15	759000	
15.00	5.00	25.00	6.6	.17	888000	
10.00	5.00	33.33	6.6	.22	1083000	
5.00	5.00	50.00	6.6	.33	1440000	
0.00	5.00	100.00	6.6	.66	2391000	<4>
3.35					1772000	
2.45					1968000	

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SUMMARY OF PASS AND TICKET RIDES

PASS $/MO	TOTAL RIDES (000) <1>	PASS RIDES (000) <2>	%PASS RIDES	ANN RIDES /PASS	PASS HOLDERS	TICKET RIDES (000)	MARKET SIZE 65-69	PASS PENETR OF POP
26	1600	656	.41	750	874	944	7200	.06
20	1650	762	.46	670	1137	888	7200	.08
15	1700	889	.52	590	1507	811	7200	.10
10	1750	1088	.62	510	2133	662	7200	.15
5	1800	1453	.81	430	3379	347	7200	.23
3.35	2000	1772	.89	405	4375	228	7200	.30
2.45	2180	1968	.91	390	5046	212	7200	.35
0	2520	2426	.98	350	6931	94	7200	.48

(1) SEE ATTACHED GRAPH
(2) SEE CHART ON THIS PAGE
(3) FROM 83 SURVEY.
(4) FROM 88 SURVEY

APPENDIX

E

QUESTIONS AND COMMENTS FROM THE FLOOR
HAMILTON PUBLIC MEETING
JULY 27, 1988

1. Why dont you phase in the 65-69 yenr group one year at a time at $28.75?
2. Why are the 60-64 year age group included in your plans?
3. We hope there wont be any restrictions on the hours of use of the service.
4. Why cant you have a $26.50 monthly pass for the 60-64 age group?
5. The majority of seniors want the $28.75 pass at 65 years.
6. You are nickle and diming us. (3 comments)
7. Seniors use buses from 10 AM to 6 PM, so there should be no restriction on hours of riding.
8. What about an annual pass at $40 per year rather than $25 plus a drop charge.
9. How about giving everyone the pass at $28.75 and charging a dime a ride?
10. Can we get the passes at ticket outlets?
11. Would the added revenues be greater than the added costs if you included the 60-64 age group at lower fares?
12. Charge $35 to $40 per year for the new pass since it will be a nuisance to drop a dime in every time you ride.
13. Did you look at off-peak fares for the 65-69 year group?
14. Why are the 60's not in the program?
15. Several comments on benches at bus stops and poor Sunday service.

QUESTIONS AND COMMENTS FROM THE FLOOR
DUNDAS PUBLIC MEETING
JULY 28, 1988

1. Can we still transfer to the Hamilton buses with our pass?
2. How much will the $25 and 25 cent program cost the taxpayer on a household basis?
3. Why is transit in Quebec free?
4. Why isn't transit a regional responsibility so all seniors could have a low cost pass?
5. Can I get a pass if I live in Flamborough?
6. I travel on Dundas Supplemental Tickets. Can this money be applied to the pass purchase?
7. The first step up onto the bus is too high. Can't the HSR do something about that?
8. One part of the group said that dropping a dime or quarter into the farebox was a real problem and the pass should be priced at a level that would cover the $25 plus the riders share of the per ride cost.
9. Another part of the group said that they had reached a concensus that the $25 pass plus the 25 cent fare was agreeable to them.
10. Why not let all seniors ride free?
11. If there were an annual pass priced to cover all costs, why should the Dundas costs be higher than Hamilton?
12. Someone thought that any pass idea was great.

APPENDIX
F

HSR FARE POLICY ALTERNATIVE: A

AGE GROUP: 65-69 PASS: $312 RIDE: 0.65
AGE GROUP: 70-84 PASS: $28.75 RIDE: 0.00

YEAR	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP	65-69	65-69	65-69	65-69	65-69	65-69	65-69	65-69	65-69	65-69	65-69
PASSES	866.00	893.00	918.00	923.00	928.00	914.00	901.00	892.00	883.00	874.00	865.00
TOTAL RIDES (000)	1600.00	1642.00	1690.00	1697.00	1706.00	1682.00	1658.00	1640.00	1626.00	1608.00	1590.00
FARE STABILIZATION($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HSR REVENUE ($000)	884.00	911.00	937.00	941.00	946.00	933.00	919.00	910.00	902.00	892.00	882.00
AGE GROUP	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
PASSES	10219.00	10260.00	10660.00	11030.00	11400.00	11754.00	12078.00	12550.00	13027.00	13347.00	13671.00
TOTAL RIDES (000)	3914.00	3929.00	4083.00	4224.00	4366.00	4502.00	4626.00	4807.00	4989.00	5112.00	5236.00
FARE STABILIZATION($000)	3188.00	3201.00	3326.00	3441.00	3556.00	3667.00	3768.00	3916.00	4065.00	4164.00	4265.00
HSR REVENUE ($000)	3188.00	3201.00	3326.00	3441.00	3556.00	3667.00	3768.00	3916.00	4065.00	4164.00	4265.00
AGE GROUP	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
PASSES	11085.00	11153.00	11578.00	11953.00	12328.00	12668.00	12979.00	13442.00	13910.00	14221.00	14536.00
TOTAL RIDES (000)	5514.00	5571.00	5773.00	5921.00	6072.00	6184.00	6284.00	6447.00	6615.00	6720.00	6826.00
FARE STABILIZATION($000)	3188.00	3201.00	3326.00	3441.00	3556.00	3667.00	3768.00	3916.00	4065.00	4164.00	4265.00
HSR REVENUE ($000)	4072.00	4112.00	4263.00	4382.00	4502.00	4600.00	4687.00	4826.00	4967.00	5056.00	5147.00
FARE STABILIZATION / RIDE	0.58	0.57	0.58	0.58	0.59	0.59	0.60	0.61	0.61	0.62	0.62

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $28.75
FEE PER RIDE: 0.00

AGE GROUP: ALL

YEAR		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84
POPULATION IN (000)		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
PASS PENETRATION		22.71	38.07	39.10	39.88	40.79	41.36	41.86	42.77	43.68	44.23	44.79
PASSES		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
		10900.80	18273.60	18768.00	19142.40	19579.20	19852.80	20092.80	20529.60	20966.40	21230.40	21499.20
PASS RIDES IN (000)	350.00	3815.28	6395.76	6568.80	6699.84	6852.72	6948.48	7032.48	7185.36	7338.24	7430.64	7524.72
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		3815.28	6395.76	6568.80	6699.84	6852.72	6948.48	7032.48	7185.36	7338.24	7430.64	7524.72
GOLD PASS REVENUE ($000)	28.75	313.40	525.37	539.58	550.34	562.90	570.77	577.67	590.23	602.78	610.37	618.10
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION												
PER PASS ($000)	312.00	3401.05	5701.36	5855.62	5972.43	6108.71	6194.07	6268.95	6405.24	6541.52	6623.88	6707.75
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION												
PASS ($000)		3087.65	5176.00	5316.04	5422.08	5545.81	5623.31	5691.29	5815.01	5938.73	6013.51	6089.65
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR												
PASS STABILIZATION ($000)		3401.05	5701.36	5855.62	5972.43	6108.71	6194.07	6268.95	6405.24	6541.52	6623.88	6707.75
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		3401.05	5701.36	5855.62	5972.43	6108.71	6194.07	6268.95	6405.24	6541.52	6623.88	6707.75
INCREMENTAL REVENUE ($000)			2300.31	2454.57	2571.38	2707.66	2793.02	2867.90	3004.19	3140.47	3222.84	3306.70

HSR FARE POLICY ALTERNATIVE: D

AGE GROUP: 65.....PASS: $25 RIDE: 0.10
AGE GROUP: .....84PASS: $28.75 RIDE: 0.00

YEAR	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP	65-69	68-69	66-70	65-71	65-72	65-73	65-74	65-75	65-76	65-77	65-78
PASSES	866.00	2083.00	6118.00	7003.00	7990.00	8963.00	10031.00	10675.00	11410.00	12141.00	12959.00
TOTAL RIDES (000)	1600.00	900.00	2643.00	3025.00	3451.00	3871.00	4333.00	4611.00	4928.00	5244.00	5597.00
FARE STABILIZATION($000)	0.00	447.00	1083.00	1502.00	1714.00	1923.00	2152.00	2290.00	2447.00	2604.00	2779.00
HSR REVENUE ($000)	884.00	637.00	1543.00	2141.00	2443.00	2741.00	3067.00	3264.00	3489.00	3712.00	3962.00

AGE GROUP	70-84	70-84	71-84	72-84	73-84	74-84	75-84	76-84	77-84	78-84	79-84
PASSES	10219.00	10260.00	9684.00	8946.00	8077.00	7087.00	5940.00	5521.00	4986.00	4293.00	3496.00
TOTAL RIDES (000)	3914.00	3929.00	3709.00	3426.00	3094.00	2714.00	2275.00	2114.00	1910.00	1644.00	1339.00
FARE STABILIZATION($000)	3188.00	3201.00	3021.00	2791.00	2520.00	2211.00	1853.00	1723.00	1556.00	1339.00	1091.00
HSR REVENUE ($000)	3188.00	3201.00	3021.00	2791.00	2520.00	2211.00	1853.00	1723.00	1556.00	1339.00	1091.00

AGE GROUP	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
PASSES	11085.00	12343.00	15802.00	15949.00	16067.00	16050.00	15971.00	16196.00	16396.00	16434.00	16455.00
TOTAL RIDES (000)	5514.00	4829.00	6352.00	6451.00	6545.00	6585.00	6608.00	6725.00	6838.00	6888.00	6936.00
FARE STABILIZATION($000)	3188.00	3648.00	4104.00	4293.00	4234.00	4134.00	4005.00	4013.00	4003.00	3943.00	3870.00
HSR REVENUE ($000)	4072.00	4384.00	4751.00	4932.00	4963.00	4952.00	4920.00	4987.00	5045.00	5051.00	5053.00

NOTE:(1) HSR REVENUE IN 1989 INCLUDES $548,000 FROM 65-67 YEAR OLDS NOT YET IN PROGRAM
AND IN 1990 INCLUDES $187,000 FROM 65 YEAR OLDS NOT YET IN PROGRAM

(2) HSR REVENUE INCLUDES SMALL AMOUNT OF REVENUE FROM ONGOING TICKET AND CASH RIDERS

HSR SENIORS FARE POLICY ALTERNATIVES ANNUAL PASS COST: $25.00 AGE GROUP:PHASE IN
FEE PER RIDE: 0.10

YEAR		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		65-69	65-69	65-70	65-71	65-72	65-73	65-74	65-75	65-76	65-77	65-78
POPULATION IN (000)		14.44	14.88	17.48	20.01	22.83	25.61	28.66	30.50	32.60	34.69	37.02
PASS PENETRATION		0.06	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
PASSES		866.40	5208.00	6118.00	7003.50	7990.50	8963.50	10031.00	10675.00	11410.00	12141.50	12957.00
PASS RIDES IN (000)	390.00	656.00	2031.12	2386.02	2731.37	3116.30	3495.77	3912.09	4163.25	4449.90	4735.19	5053.23
TICKET RIDES IN (000)	14.68	944.00	218.44	256.61	293.75	335.14	375.95	420.73	447.74	478.57	509.25	543.45
TOTAL RIDES IN (000)		1600.00	2249.56	2642.63	3025.11	3451.44	3871.72	4332.82	4610.99	4928.47	5244.43	5596.68
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SILVER PASS REVENUE ($000)	25.00	270.32	130.20	152.95	175.09	199.76	224.09	250.78	266.88	285.25	303.54	323.93
FEE REVENUE ($000)	0.10	0.00	203.11	238.60	273.14	311.63	349.58	391.21	416.33	444.99	473.52	505.32
TICKET REVENUE ($000)	0.65	613.60	141.98	166.79	190.94	217.84	244.37	273.47	291.03	311.07	331.01	353.24
FARE STABILIZATION												
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.55	0.00	1117.12	1312.31	1502.25	1713.96	1922.67	2151.65	2289.79	2447.45	2604.35	2779.28
NET CITY CONTRIBUTION												
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		0.00	1117.12	1312.31	1502.25	1713.96	1922.67	2151.65	2289.79	2447.45	2604.35	2779.28
TOTAL CONTRIBUTION ($000)		0.00	1117.12	1312.31	1502.25	1713.96	1922.67	2151.65	2289.79	2447.45	2604.35	2779.28
REVENUE TO HSR												
$312 PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.55 RIDE STABILIZATION ($000)		0.00	1117.12	1312.31	1502.25	1713.96	1922.67	2151.65	2289.79	2447.45	2604.35	2779.28
$25 PASS REVENUE ($000)		270.32	130.20	152.95	175.09	199.76	224.09	250.78	266.88	285.25	303.54	323.93
0.10 FEE REVENUE ($000)		0.00	203.11	238.60	273.14	311.63	349.58	391.21	416.33	444.99	473.52	505.32
0.65 TICKET REVENUE ($000)		613.60	141.98	166.79	190.94	217.84	244.37	273.47	291.03	311.07	331.01	353.24
TOTAL HSR REVENUE ($000)		883.92	1592.41	1870.66	2141.41	2443.20	2740.71	3067.11	3264.02	3488.75	3712.42	3961.77
INCREMENTAL REVENUE ($000)			708.50	986.74	1257.49	1559.28	1856.79	2183.19	2380.10	2604.84	2828.50	3077.85

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $28.75
FEE PER RIDE: 0.00

AGE GROUP:PHASE OUT

YEAR		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	71-84	72-84	73-84	74-84	75-84	76-84	77-84	78-84	79-84
POPULATION IN (000)		22.71	22.80	21.52	19.88	17.95	15.75	13.20	12.27	11.08	9.54	7.77
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		10219.50	10260.00	9684.00	8946.00	8077.50	7087.50	5940.00	5521.50	4986.00	4293.00	3496.50
PASS RIDES IN (000)	383.00	3914.07	3929.58	3708.97	3426.32	3093.68	2714.51	2275.02	2114.73	1909.64	1644.22	1339.16
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		3914.07	3929.58	3708.97	3426.32	3093.68	2714.51	2275.02	2114.73	1909.64	1644.22	1339.16
GOLD PASS REVENUE ($000)	28.75	293.81	294.98	278.42	257.20	232.23	203.77	170.78	158.74	143.35	123.42	100.52
SILVER PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION												
PER PASS ($000)	312.00	3188.48	3201.12	3021.41	2791.15	2520.18	2211.30	1853.28	1722.71	1555.63	1339.42	1090.91
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION												
PASS ($000)		2894.67	2906.15	2742.99	2533.95	2287.95	2007.53	1682.51	1563.96	1412.28	1215.99	990.38
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CONTRIBUTION ($000)		2894.67	2906.15	2742.99	2533.95	2287.95	2007.53	1682.51	1563.96	1412.28	1215.99	990.38
REVENUE TO HSR												
PASS STABILIZATION ($000)		3188.48	3201.12	3021.41	2791.15	2520.18	2211.30	1853.28	1722.71	1555.63	1339.42	1090.91
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		3188.48	3201.12	3021.41	2791.15	2520.18	2211.30	1853.28	1722.71	1555.63	1339.42	1090.91
INCREMENTAL REVENUE ($000)			12.64	-167.08	-397.33	-668.30	-977.18	-1335.20	-1465.78	-1632.85	-1849.07	-2097.58

HSR FARE POLICY ALTERNATIVE: E

AGE GROUP: 65.....PASS: $25 RIDE: 0.25
AGE GROUP: .....84PASS: $28.75 RIDE: 0.00

YEAR	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP	65-69	68-69	66-70	65-71	65-72	65-73	65-74	65-75	65-76	65-77	65-78
PASSES	866.00	1785.00	5244.00	6003.00	6849.00	7683.00	8598.00	9150.00	9780.00	10407.00	11106.00
TOTAL RIDES (000)	1600.00	816.00	2400.00	2747.00	3134.00	3516.00	3935.00	4187.00	4476.00	4763.00	5082.00
FARE STABILIZATION($000)	0.00	289.00	701.00	972.00	1109.00	1245.00	1393.00	1482.00	1584.00	1686.00	1799.00
HSR REVENUE ($000)	884.00	552.00	1338.00	1936.00	2208.00	2477.00	2773.00	2950.00	3154.00	3356.00	3581.00
AGE GROUP	70-84	70-84	71-84	72-84	73-84	74-84	75-84	76-84	77-84	78-84	79-84
PASSES	10219.00	10260.00	9684.00	8946.00	8077.00	7087.00	5940.00	5521.00	4986.00	4293.00	3496.00
TOTAL RIDES (000)	3914.00	3929.00	3709.00	3426.00	3094.00	2714.00	2275.00	2114.00	1910.00	1644.00	1339.00
FARE STABILIZATION($000)	3188.00	3201.00	3021.00	2791.00	2520.00	2211.00	1853.00	1723.00	1556.00	1339.00	1091.00
HSR REVENUE ($000)	3188.00	3201.00	3021.00	2791.00	2520.00	2211.00	1853.00	1723.00	1556.00	1339.00	1091.00
AGE GROUP	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
PASSES	11085.00	12045.00	14928.00	14949.00	14926.00	14770.00	14538.00	14671.00	14766.00	14700.00	14602.00
TOTAL RIDES (000)	5514.00	4745.00	6109.00	6173.00	6228.00	6230.00	6210.00	6301.00	6386.00	6407.00	6421.00
FARE STABILIZATION($000)	3188.00	3490.00	3722.00	3763.00	3629.00	3456.00	3246.00	3205.00	3140.00	3025.00	2890.00
HSR REVENUE ($000)	4072.00	4299.00	4546.00	4727.00	4728.00	4688.00	4626.00	4673.00	4710.00	4695.00	4672.00

NOTE: HSR REVENUE IN 1989 INCLUDES $548,000 FROM 65-67 YEAR OLDS NOT YET IN PROGRAM
AND IN 1990 INCLUDES $187,000 FROM 65 YEAR OLDS NOT YET IN PROGRAM

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.25

AGE GROUP:PHASE IN

YEAR		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		65-69	65-69	65-70	65-71	65-72	65-73	65-74	65-75	65-76	65-77	65-78
POPULATION IN (000)		14.44	14.88	17.48	20.01	22.83	25.61	28.66	30.50	32.60	34.69	37.02
PASS PENETRATION		0.06	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
PASSES		866.40	4464.00	5244.00	6003.00	6849.00	7683.00	8598.00	9150.00	9780.00	10407.00	11106.00
PASS RIDES IN (000)	405.00	656.00	1807.92	2123.82	2431.22	2773.85	3111.62	3482.19	3705.75	3960.90	4214.84	4497.93
TICKET RIDES IN (000)	15.79	944.00	234.96	276.01	315.96	360.49	404.38	452.54	481.60	514.75	547.76	584.55
TOTAL RIDES IN (000)		1600.00	2042.88	2399.83	2747.17	3134.33	3516.00	3934.73	4187.35	4475.65	4762.59	5082.48
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SILVER PASS REVENUE ($000)	25.00	270.32	111.60	131.10	150.08	171.23	192.08	214.95	228.75	244.50	260.18	277.65
FEE REVENUE ($000)	0.25	0.00	451.98	530.96	607.80	693.46	777.90	870.55	926.44	990.23	1053.71	1124.48
TICKET REVENUE ($000)	0.65	613.60	152.72	179.41	205.37	234.32	262.85	294.15	313.04	334.59	356.04	379.95
FARE STABILIZATION												
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.40	0.00	723.17	849.53	972.49	1109.54	1244.65	1392.88	1482.30	1584.36	1685.93	1799.17
NET CITY CONTRIBUTION												
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		0.00	723.17	849.53	972.49	1109.54	1244.65	1392.88	1482.30	1584.36	1685.93	1799.17
TOTAL CONTRIBUTION ($000)		0.00	723.17	849.53	972.49	1109.54	1244.65	1392.88	1482.30	1584.36	1685.93	1799.17
REVENUE TO HSR												
$312 PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.40 RIDE STABILIZATION ($000)		0.00	723.17	849.53	972.49	1109.54	1244.65	1392.88	1482.30	1584.36	1685.93	1799.17
$25 PASS REVENUE ($000)		270.32	111.60	131.10	150.08	171.23	192.08	214.95	228.75	244.50	260.18	277.65
0.25 FEE REVENUE ($000)		0.00	451.98	530.96	607.80	693.46	777.90	870.55	926.44	990.23	1053.71	1124.48
0.65 TICKET REVENUE ($000)		613.60	152.72	179.41	205.37	234.32	262.85	294.15	313.04	334.59	356.04	379.95
TOTAL HSR REVENUE ($000)		883.92	1439.47	1690.99	1935.74	2208.54	2477.47	2772.53	2950.52	3153.68	3355.86	3581.26
INCREMENTAL REVENUE ($000)			555.55	807.07	1051.82	1324.62	1593.56	1888.61	2066.61	2269.76	2471.94	2697.34

APPENDIX

G

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $28.75
FEE PER RIDE:

AGE GROUP: 70-84
MUNICIPALITY: ANCASTER

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		0.86	0.88	0.92	0.95	0.98	1.01	1.05	1.09	1.12	1.14
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		387.00	396.00	414.00	427.50	441.00	454.50	472.50	490.50	504.00	513.00
PASS RIDES IN (000)	75.00	29.03	29.70	31.05	32.06	33.08	34.09	35.44	36.79	37.80	38.48
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		29.03	29.70	31.05	32.06	33.08	34.09	35.44	36.79	37.80	38.48
GOLD PASS REVENUE ($000)	28.75	11.13	11.39	11.90	12.29	12.68	13.07	13.58	14.10	14.49	14.75
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	312.00	120.74	123.55	129.17	133.38	137.59	141.80	147.42	153.04	157.25	160.06
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION											
PASS ($000)		109.62	112.17	117.27	121.09	124.91	128.74	133.84	138.93	142.76	145.31
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR											
PASS STABILIZATION ($000)		120.74	123.55	129.17	133.38	137.59	141.80	147.42	153.04	157.25	160.06
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		120.74	123.55	129.17	133.38	137.59	141.80	147.42	153.04	157.25	160.06
INCREMENTAL REVENUE ($000)		105.02	107.83	113.44	117.66	121.87	126.08	131.70	137.31	141.52	144.33

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $28.75
FEE PER RIDE:

AGE GROUP: 65-84
MUNICIPALITY: ANCASTER

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84
POPULATION IN (000)		1.53	1.57	1.61	1.65	1.67	1.67	1.72	1.75	1.78	1.79
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		688.50	706.50	724.50	742.50	751.50	751.50	774.00	787.50	801.00	805.50
PASS RIDES IN (000)	75.00	51.64	52.99	54.34	55.69	56.36	56.36	58.05	59.06	60.08	60.41
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		51.64	52.99	54.34	55.69	56.36	56.36	58.05	59.06	60.08	60.41
GOLD PASS REVENUE ($000)	28.75	19.79	20.31	20.83	21.35	21.61	21.61	22.25	22.64	23.03	23.16
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	312.00	214.81	220.43	226.04	231.66	234.47	234.47	241.49	245.70	249.91	251.32
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION											
PASS ($000)		195.02	200.12	205.21	210.31	212.86	212.86	219.24	223.06	226.88	228.16
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR											
PASS STABILIZATION ($000)		214.81	220.43	226.04	231.66	234.47	234.47	241.49	245.70	249.91	251.32
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		214.81	220.43	226.04	231.66	234.47	234.47	241.49	245.70	249.91	251.32
INCREMENTAL REVENUE ($000)		186.92	192.54	198.15	203.77	206.58	206.58	213.60	217.81	222.02	223.42

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.10

AGE GROUP: 65-84
MUNICIPALITY: ANCASTER

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84
POPULATION IN (000)		1.53	1.57	1.61	1.65	1.67	1.67	1.72	1.75	1.78	1.79
PASS PENETRATION		0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
PASSES		535.50	549.50	563.50	577.50	584.50	584.50	602.00	612.50	623.00	626.50
PASS RIDES IN (000)	84.00	44.98	46.16	47.33	48.51	49.10	49.10	50.57	51.45	52.33	52.63
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		44.98	46.16	47.33	48.51	49.10	49.10	50.57	51.45	52.33	52.63
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)	25.00	13.39	13.74	14.09	14.44	14.61	14.61	15.05	15.31	15.58	15.66
FEE REVENUE ($000)	0.10	4.50	4.62	4.73	4.85	4.91	4.91	5.06	5.15	5.23	5.26
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.55	24.74	25.39	26.03	26.68	27.00	27.00	27.81	28.30	28.78	28.94
NET CITY CONTRIBUTION											
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		24.74	25.39	26.03	26.68	27.00	27.00	27.81	28.30	28.78	28.94
REVENUE TO HSR											
PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE STABILIZATION ($000)		24.74	25.39	26.03	26.68	27.00	27.00	27.81	28.30	28.78	28.94
PASS REVENUE ($000)		13.39	13.74	14.09	14.44	14.61	14.61	15.05	15.31	15.58	15.66
FEE REVENUE ($000)		4.50	4.62	4.73	4.85	4.91	4.91	5.06	5.15	5.23	5.26
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		42.63	43.74	44.85	45.97	46.53	46.53	47.92	48.76	49.59	49.87
INCREMENTAL REVENUE ($000)		35.51	36.62	37.74	38.85	39.41	39.41	40.80	41.64	42.47	42.75

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.25

AGE GROUP: 65-84
MUNICIPALITY: ANCASTER

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84
POPULATION IN (000)		1.53	1.57	1.61	1.65	1.67	1.67	1.72	1.75	1.78	1.79
PASS PENETRATION		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
PASSES		459.00	471.00	483.00	495.00	501.00	501.00	516.00	525.00	534.00	537.00
PASS RIDES IN (000)	87.00	39.93	40.98	42.02	43.07	43.59	43.59	44.89	45.68	46.46	46.72
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		39.93	40.98	42.02	43.07	43.59	43.59	44.89	45.68	46.46	46.72
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)	25.00	11.48	11.78	12.08	12.38	12.53	12.53	12.90	13.13	13.35	13.43
FEE REVENUE ($000)	0.25	9.98	10.24	10.51	10.77	10.90	10.90	11.22	11.42	11.61	11.68
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.40	15.97	16.39	16.81	17.23	17.43	17.43	17.96	18.27	18.58	18.69
NET CITY CONTRIBUTION											
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		15.97	16.39	16.81	17.23	17.43	17.43	17.96	18.27	18.58	18.69
REVENUE TO HSR											
PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE STABILIZATION ($000)		15.97	16.39	16.81	17.23	17.43	17.43	17.96	18.27	18.58	18.69
PASS REVENUE ($000)		11.48	11.78	12.08	12.38	12.53	12.53	12.90	13.13	13.35	13.43
FEE REVENUE ($000)		9.98	10.24	10.51	10.77	10.90	10.90	11.22	11.42	11.61	11.68
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		37.43	38.41	39.39	40.37	40.86	40.86	42.08	42.81	43.55	43.79
INCREMENTAL REVENUE ($000)		30.14	31.12	32.10	33.08	33.57	33.57	34.79	35.52	36.26	36.50

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $28.75
FEE PER RIDE: 0.00

AGE GROUP: 70-84
MUNICIPALITY: DUNDAS

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		1.67	1.71	1.76	1.82	1.87	1.93	2.00	2.07	2.12	2.17
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		751.50	769.50	792.00	819.00	841.50	868.50	900.00	931.50	954.00	976.50
PASS RIDES IN (000)	87.00	65.38	66.95	68.90	71.25	73.21	75.56	78.30	81.04	83.00	84.96
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		65.38	66.95	68.90	71.25	73.21	75.56	78.30	81.04	83.00	84.96
GOLD PASS REVENUE ($000)	28.75	21.61	22.12	22.77	23.55	24.19	24.97	25.88	26.78	27.43	28.07
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	312.00	234.47	240.08	247.10	255.53	262.55	270.97	280.80	290.63	297.65	304.67
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION											
PASS ($000)		212.86	217.96	224.33	231.98	238.35	246.00	254.93	263.85	270.22	276.59
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR											
PASS STABILIZATION ($000)		234.47	240.08	247.10	255.53	262.55	270.97	280.80	290.63	297.65	304.67
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		234.47	240.08	247.10	255.53	262.55	270.97	280.80	290.63	297.65	304.67
INCREMENTAL REVENUE ($000)		203.77	209.38	216.40	224.83	231.85	240.27	250.10	259.93	266.95	273.97

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $28.75
FEE PER RIDE: 0.00

AGE GROUP: 65-84
MUNICIPALITY: DUNDAS

		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
YEAR											
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		2.52	2.58	2.64	2.70	2.74	2.79	2.85	2.91	2.95	2.99
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		1134.00	1161.00	1188.00	1215.00	1233.00	1255.50	1282.50	1309.50	1327.50	1345.50
PASS RIDES IN (000)	87.00	98.66	101.01	103.36	105.71	107.27	109.23	111.58	113.93	115.49	117.06
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		98.66	101.01	103.36	105.71	107.27	109.23	111.58	113.93	115.49	117.06
GOLD PASS REVENUE ($000)	28.75	32.60	33.38	34.16	34.93	35.45	36.10	36.87	37.65	38.17	38.68
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	312.00	353.81	362.23	370.66	379.08	384.70	391.72	400.14	408.56	414.18	419.80
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION											
PASS ($000)		321.21	328.85	336.50	344.15	349.25	355.62	363.27	370.92	376.01	381.11
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR											
PASS STABILIZATION ($000)		353.81	362.23	370.66	379.08	384.70	391.72	400.14	408.56	414.18	419.80
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		353.81	362.23	370.66	379.08	384.70	391.72	400.14	408.56	414.18	419.80
INCREMENTAL REVENUE ($000)		307.76	316.18	324.60	333.03	338.64	345.66	354.09	362.51	368.13	373.74

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.10

AGE GROUP: 65-84
MUNICIPALITY: DUNDAS

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		2.52	2.58	2.64	2.70	2.74	2.79	2.85	2.91	2.95	2.99
PASS PENETRATION		0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
PASSES		882.00	903.00	924.00	945.00	959.00	976.50	997.50	1018.50	1032.50	1046.50
PASS RIDES IN (000)	97.00	85.55	87.59	89.63	91.67	93.02	94.72	96.76	98.79	100.15	101.51
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		85.55	87.59	89.63	91.67	93.02	94.72	96.76	98.79	100.15	101.51
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)	25.00	22.05	22.58	23.10	23.63	23.98	24.41	24.94	25.46	25.81	26.16
FEE REVENUE ($000)	0.10	8.56	8.76	8.96	9.17	9.30	9.47	9.68	9.88	10.02	10.15
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.55	47.05	48.18	49.30	50.42	51.16	52.10	53.22	54.34	55.08	55.83
NET CITY CONTRIBUTION											
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		47.05	48.18	49.30	50.42	51.16	52.10	53.22	54.34	55.08	55.83
REVENUE TO HSR											
PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE STABILIZATION ($000)		47.05	48.18	49.30	50.42	51.16	52.10	53.22	54.34	55.08	55.83
PASS REVENUE ($000)		22.05	22.58	23.10	23.63	23.98	24.41	24.94	25.46	25.81	26.16
FEE REVENUE ($000)		8.56	8.76	8.96	9.17	9.30	9.47	9.68	9.88	10.02	10.15
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		77.66	79.51	81.36	83.21	84.44	85.98	87.83	89.68	90.91	92.14
INCREMENTAL REVENUE ($000)		64.66	66.51	68.36	70.21	71.44	72.98	74.83	76.68	77.92	79.15

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.25

AGE GROUP: 65-84
MUNICIPALITY: DUNDAS

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		2.52	2.58	2.64	2.70	2.74	2.79	2.85	2.91	2.95	2.99
PASS PENETRATION		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
PASSES		756.00	774.00	792.00	810.00	822.00	837.00	855.00	873.00	885.00	897.00
PASS RIDES IN (000)	101.00	76.36	78.17	79.99	81.81	83.02	84.54	86.36	88.17	89.39	90.60
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		76.36	78.17	79.99	81.81	83.02	84.54	86.36	88.17	89.39	90.60
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)	25.00	18.90	19.35	19.80	20.25	20.55	20.93	21.38	21.83	22.13	22.43
FEE REVENUE ($000)	0.25	19.09	19.54	20.00	20.45	20.76	21.13	21.59	22.04	22.35	22.65
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.40	30.54	31.27	32.00	32.72	33.21	33.81	34.54	35.27	35.75	36.24
NET CITY CONTRIBUTION											
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		30.54	31.27	32.00	32.72	33.21	33.81	34.54	35.27	35.75	36.24
REVENUE TO HSR											
PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE STABILIZATION ($000)		30.54	31.27	32.00	32.72	33.21	33.81	34.54	35.27	35.75	36.24
PASS REVENUE ($000)		18.90	19.35	19.80	20.25	20.55	20.93	21.38	21.83	22.13	22.43
FEE REVENUE ($000)		19.09	19.54	20.00	20.45	20.76	21.13	21.59	22.04	22.35	22.65
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		68.53	70.16	71.79	73.43	74.51	75.87	77.51	79.14	80.23	81.31
INCREMENTAL REVENUE ($000)		55.15	56.78	58.41	60.05	61.13	62.49	64.13	65.76	66.85	67.93

HSR SENIORS FARE POLICY ALTERNATIVES — ANNUAL PASS COST: 28.75 — AGE GROUP: 70-84

FEE PER RIDE: — MUNICIPALITY: STONEY CREEK

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		2.05	2.10	2.17	2.25	2.32	2.39	2.49	2.58	2.64	2.71
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		922.50	945.00	976.50	1012.50	1044.00	1075.50	1120.50	1161.00	1188.00	1219.50
PASS RIDES IN (000)	95.00	87.64	89.78	92.77	96.19	99.18	102.17	106.45	110.30	112.86	115.85
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		87.64	89.78	92.77	96.19	99.18	102.17	106.45	110.30	112.86	115.85
GOLD PASS REVENUE ($000)	28.75	26.52	27.17	28.07	29.11	30.02	30.92	32.21	33.38	34.16	35.06
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	312.00	287.82	294.84	304.67	315.90	325.73	335.56	349.60	362.23	370.66	380.48
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION											
PASS ($000)		261.30	267.67	276.59	286.79	295.71	304.64	317.38	328.85	336.50	345.42
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR											
PASS STABILIZATION ($000)		287.82	294.84	304.67	315.90	325.73	335.56	349.60	362.23	370.66	380.48
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		287.82	294.84	304.67	315.90	325.73	335.56	349.60	362.23	370.66	380.48
INCREMENTAL REVENUE ($000)		250.01	257.03	266.85	278.09	287.91	297.74	311.78	324.42	332.84	342.67

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: 28.75
FEE PER RIDE:

AGE GROUP: 65-84
MUNICIPALITY: STONEY CREEK

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84	70-84
POPULATION IN (000)		3.47	3.56	3.64	3.73	3.78	3.83	3.91	3.99	4.03	4.09
PASS PENETRATION		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
PASSES		1561.50	1602.00	1638.00	1678.50	1701.00	1723.50	1759.50	1795.50	1813.50	1840.50
PASS RIDES IN (000)	95.00	148.34	152.19	155.61	159.46	161.60	163.73	167.15	170.57	172.28	174.85
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		148.34	152.19	155.61	159.46	161.60	163.73	167.15	170.57	172.28	174.85
GOLD PASS REVENUE ($000)	28.75	44.89	46.06	47.09	48.26	48.90	49.55	50.59	51.62	52.14	52.91
PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	312.00	487.19	499.82	511.06	523.69	530.71	537.73	548.96	560.20	565.81	574.24
PER RIDE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CITY CONTRIBUTION											
PASS ($000)		442.29	453.77	463.96	475.44	481.81	488.18	498.38	508.58	513.67	521.32
RIDE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE TO HSR											
PASS STABILIZATION ($000)		487.19	499.82	511.06	523.69	530.71	537.73	548.96	560.20	565.81	574.24
RIDE STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FEE REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		487.19	499.82	511.06	523.69	530.71	537.73	548.96	560.20	565.81	574.24
INCREMENTAL REVENUE ($000)		423.54	436.18	447.41	460.04	467.06	474.08	485.32	496.55	502.16	510.59

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.10

AGE GROUP: 65-84
MUNICIPALITY: STONEY CREEK

		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
YEAR											
AGE GROUP		65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84
POPULATION IN (000)		3.47	3.56	3.64	3.73	3.78	3.83	3.91	3.99	4.03	4.09
PASS PENETRATION		0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
PASSES		1214.50	1246.00	1274.00	1305.50	1323.00	1340.50	1368.50	1396.50	1410.50	1431.50
PASS RIDES IN (000)	106.00	128.74	132.08	135.04	138.38	140.24	142.09	145.06	148.03	149.51	151.74
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		128.74	132.08	135.04	138.38	140.24	142.09	145.06	148.03	149.51	151.74
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)	25.00	30.36	31.15	31.85	32.64	33.08	33.51	34.21	34.91	35.26	35.79
FEE REVENUE ($000)	0.10	12.87	13.21	13.50	13.84	14.02	14.21	14.51	14.80	14.95	15.17
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.55	70.81	72.64	74.27	76.11	77.13	78.15	79.78	81.42	82.23	83.46
NET CITY CONTRIBUTION											
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		70.81	72.64	74.27	76.11	77.13	78.15	79.78	81.42	82.23	83.46
REVENUE TO HSR											
PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE STABILIZATION ($000)		70.81	72.64	74.27	76.11	77.13	78.15	79.78	81.42	82.23	83.46
PASS REVENUE ($000)		30.36	31.15	31.85	32.64	33.08	33.51	34.21	34.91	35.26	35.79
FEE REVENUE ($000)		12.87	13.21	13.50	13.84	14.02	14.21	14.51	14.80	14.95	15.17
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		114.04	117.00	119.63	122.59	124.23	125.87	128.50	131.13	132.45	134.42
INCREMENTAL REVENUE ($000)		94.89	97.84	100.47	103.43	105.07	106.72	109.35	111.98	113.29	115.26

HSR SENIORS FARE POLICY ALTERNATIVES

ANNUAL PASS COST: $25.00
FEE PER RIDE: 0.25

AGE GROUP: 65-84
MUNICIPALITY: STONEY CREEK

YEAR		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
AGE GROUP		65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84	65-84
POPULATION IN (000)		3.47	3.56	3.64	3.73	3.78	3.83	3.91	3.99	4.03	4.09
PASS PENETRATION		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
PASSES		1041.00	1068.00	1092.00	1119.00	1134.00	1149.00	1173.00	1197.00	1209.00	1227.00
PASS RIDES IN (000)	110.00	114.51	117.48	120.12	123.09	124.74	126.39	129.03	131.67	132.99	134.97
TICKET RIDES IN (000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL RIDES IN (000)		114.51	117.48	120.12	123.09	124.74	126.39	129.03	131.67	132.99	134.97
GOLD PASS REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PASS REVENUE ($000)	25.00	26.03	26.70	27.30	27.98	28.35	28.73	29.33	29.93	30.23	30.68
FEE REVENUE ($000)	0.25	28.63	29.37	30.03	30.77	31.19	31.60	32.26	32.92	33.25	33.74
TICKET REVENUE ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FARE STABILIZATION											
PER PASS ($000)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER RIDE ($000)	0.40	45.80	46.99	48.05	49.24	49.90	50.56	51.61	52.67	53.20	53.99
NET CITY CONTRIBUTION											
PASS ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE ($000)		45.80	46.99	48.05	49.24	49.90	50.56	51.61	52.67	53.20	53.99
REVENUE TO HSR											
PASS STABILIZATION ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RIDE STABILIZATION ($000)		45.80	46.99	48.05	49.24	49.90	50.56	51.61	52.67	53.20	53.99
PASS REVENUE ($000)		26.03	26.70	27.30	27.98	28.35	28.73	29.33	29.93	30.23	30.68
FEE REVENUE ($000)		28.63	29.37	30.03	30.77	31.19	31.60	32.26	32.92	33.25	33.74
TICKET REVENUE ($000)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HSR REVENUE ($000)		100.46	103.06	105.38	107.98	109.43	110.88	113.19	115.51	116.67	118.41
INCREMENTAL REVENUE ($000)		80.77	83.38	85.69	88.30	89.75	91.19	93.51	95.82	96.98	98.72

APPENDIX
H

HAMILTON — DO NOTHING

YEAR	SENIOR FARE STAB	DEFICIT	MUNIC PAYMENT
	(000,000)	(000,000)	(000,000)
1988	3.188	9.274	12.462
1989	3.201	9.223	12.424
1990	3.326	9.072	12.398
1991	3.441	8.965	12.406
1992	3.556	8.857	12.413
1993	3.667	8.772	12.439
1994	3.768	8.709	12.477
1995	3.916	8.603	12.519
1996	4.065	8.483	12.548
1997	4.164	8.418	12.582
1998	4.265	8.358	12.623
10 YEAR TOTALS (1989-1998)	37.369	87.46	124.829

HAMILTON — $25/10CEN

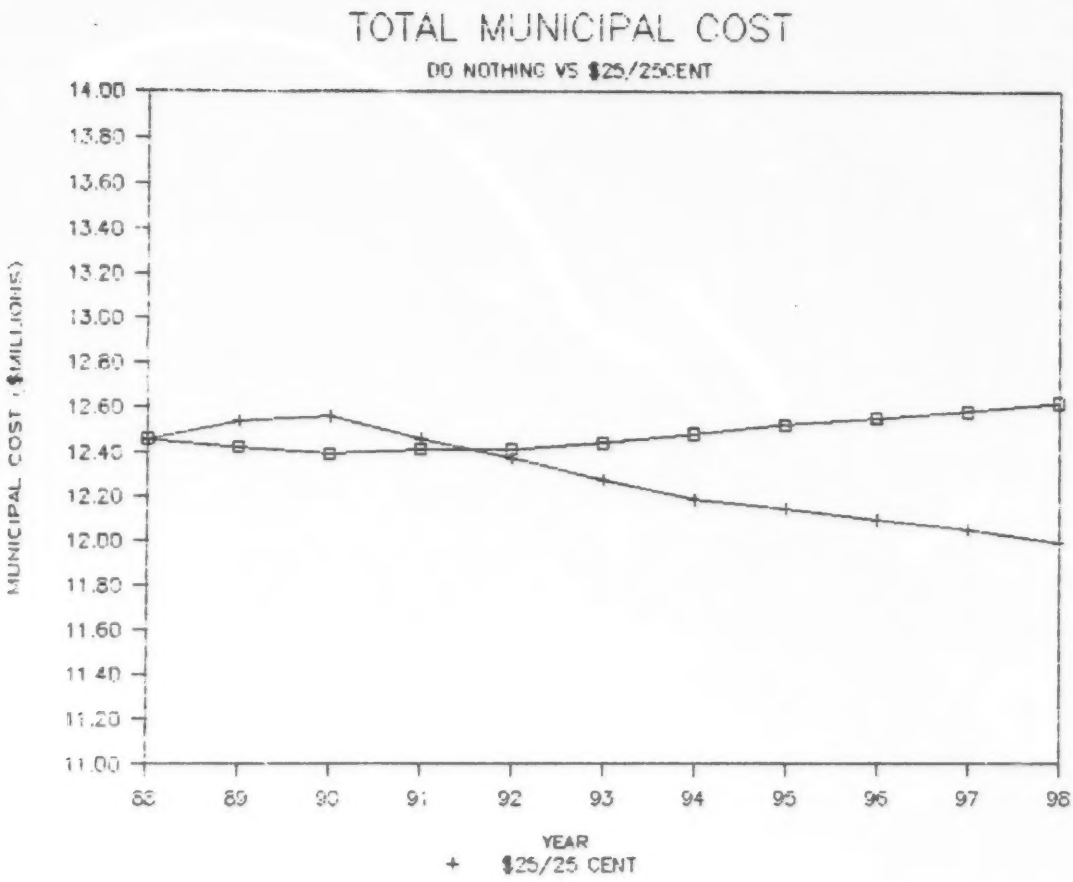
YEAR	SENIOR FARE STAB	DEFICIT	MUNIC PAYMENT
	(000,000)	(000,000)	(000,000)
1988	3.188	9.274	12.462
1989	3.647	9.159	12.806
1990	4.104	8.833	12.937
1991	4.293	8.676	12.969
1992	4.234	8.682	12.916
1993	4.134	8.722	12.856
1994	4.005	8.848	12.853
1995	4.013	8.872	12.885
1996	4.003	8.916	12.919
1997	3.943	9.001	12.944
1998	3.781	9.089	12.87
10 YEAR TOTALS (1989-1998)	40.157	88.798	128.955

NOTE: THIS SCHEME HAS THE 68-69, 66-70 AND 65-71 PHASE IN BUILT IN

HAMILTON $25/25CEN

YEAR	SENIOR FARE STAB	DEFICIT	MUNIC PAYMENT
	(000,000)	(000,000)	(000,000)
1988	3.188	9.274	12.462
1989	3.491	9.046	12.537
1990	3.722	8.839	12.561
1991	3.763	8.698	12.461
1992	3.629	8.737	12.366
1993	3.456	8.817	12.273
1994	3.246	8.932	12.178
1995	3.205	8.938	12.143
1996	3.141	8.955	12.096
1997	3.025	9.023	12.048
1998	2.891	9.099	11.99
10 YEAR TOTALS (1989-1998)	33.569	89.084	122.653

NOTE: THIS SCHEME HAS THE 68-69, 66-70 AND 65-71 PHASE IN BUILT IN


TOTAL MUNICIPAL COST
DO NOTHING VS $25/25CENT
MUNICIPAL COST ($MILLIONS)
14.00
13.80
13.60
13.40
13.20
13.00
12.80
12.60
12.40
12.20
12.00
11.80
11.60
11.40
11.20
11.00
88
89
90
91
92
93
94
95
96
97
98
YEAR
+ $25/25 CENT